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ADDRESS OF THE PRESIDENT SURGICAL ASSOCIATION OF LOUISIANA "OUR AIMS"

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NEW ORLEANS

My first and pleasant duty is to thank the members of the Association for the expression of confidence on the part of my associates. I should like to repeat what I said one year ago, at the time that you conferred upon me this honor:

"A good name is rather to be sought than much gold." I feel that a recognition by one's fellows is an expression of their approval of his way of life. I can only say. I thank you.

It seems fitting at this time to state what I believe are the fundamental purposes and functions of the Surgical Association of Louisiana.

From time to time one hears the expression that this Society is made up of glorified practitioners. We might well remind our critics that the founders of all surgical societies were at one time "glorified general practitioners." It is a compliment and not a reflection to be considered primarily a doctor and not merely a skilled technician. It is a compliment to be considered a member of a group which realizes its obligations to the patient.

Dr. Bisgard, selected as his subject for his Presidential Address before the Central Surgical Association, *The Feel of the Patient*. Bisgard said:

"Surgeons of past generations, who were to an extent general practitioners thought of their patients as persons. With the generation preceding the present one came specialization in medicine and the interests of the surgeons were confined to mechanical problems and those arising for the most part from organic disease. Surgeons indoctrinated with this idea are inclined to exclude unwittingly the influence of the emotions. We are beginning to understand again the admonishment of Spencer, 'Science is for life, not life for science'.

"The surgeon, contrary to some opinions should never become so impersonal that he fails to appreciate the emotional impact on his patient of a surgical diagnosis and a decision to operate. The feel of the patient is always an enriching and rewarding experience."

The object of this Society is to encourage surgical progress, not only in large centers, but to stimulate surgeons in small communities.

Orr in his address before the American Surgical Association spoke of *The Training of Surgeons for Smaller Communities*. Orr poses the question:

"Why should we be interested in the small community surgeon?"

He gives the answer:

"Because surgery is being done, will continue to be done and should be done in small community hospitals. Competency of the surgeon is an ever present problem. 'The rate of advance in medicine is tested by what the country doctor is.'" (Weir Mitchell.)

Orr further poses the question:

"What is this general practice which is so much

Address delivered at the Annual Meeting of the Surgical Association of Louisiana, November 11, 1950.

discussed today? How can more and better surgeons be trained?

"The community surgeon must be a general surgeon. He must be prepared to cope with emergencies in special surgical fields so that he may not make a bad situation worse before a specialist is available."

Orr feels:

"That postgraduate education consisting of two years of internship and possibly a third year in the hospital with training in medicine, pathology, surgical specialties, and general surgery, followed by general practice, would better qualify the young men for their future surgical practice and for examination by the American Board of Surgery."

This thought of Orr's is certainly one which is food for investigation. Certainly the smaller communities would benefit by having well trained men working with the older surgeons. Fewer men would become discouraged and their enthusiasm and ambitions dulled by remaining in large centers. It might be well to remind many of the older group, who now maintain that the young man must adhere strictly to his specialty or he cannot be recognized, that they themselves came up by way of general practice. It might be well to remind you that the type of surgery and the character of the surgeon is not dependent on the size of the community, but on the interest of those performing this service. It is the duty of the older surgeons to stimulate the younger men.

The Society offers opportunities for a forum for the surgeon of a small community. Our Society should contribute to the welfare of communities because realization that their surgeons are doing good work will foster a feeling of security on the part of the population. Let us be conscious of our duties to stimulate study, investigations, and better surgical practice through education.

It is worth while to elaborate a bit on what I mean by the statement: "To be conscious of our duty to stimulate study, investigations, and better surgical practice through education." These things can be done in a concrete manner. Members of the staff in small communities, as in large communities, can devote time to group discussions of current literature, either at current meetings, or otherwise, as they see fit. No matter how small the hospital is, careful review of hospital records will provide food for thought as to what is happening in a particular institution. If one will review his own experience and that of his associates, comparison may be made with reports which are found in the literature. By so doing he will not feel completely dependent on the records which others make, in order to arrive at convictions. A few cases well studied and properly interpreted enable one to arrive at a judgment which is safer than that arrived at by complete dependence on what is read.

It is the object of this Society to stimulate interest in problems relative to general welfare and the preservation of the principles of a democratic way of life. We must be alerted and ever vigiliant to schemes which would alter individual liberty of the patient and the right of the citiben doctor to be protected against the interests of socialistic paternalism, as a substitute for individual ambitions and initiative.

In 1921, when I acted as Chairman of a Committee of the Louisiana State Medical Society, I reported to the House of Delegates on the question of what I considered "A real danger confronting us." I refer to the question of health insurance. At that time I referred to a proposed model law as suggested by the American Association for Labor legislation. Under the provisions of that proposed law all persons earning less than one hundred dollars a month were to be included in the insured class, and were, therefore, entitled to the medical benefits provided by law. At that time I deplored the possibility of a panel system; of what I considered a degraded position for the profession by becoming a salaried group. The relationship which existed between patients and ourselves was one that we hoped to maintain.

The question was asked then, did we want to allow ourselves to be dashed headlong into experimental socialism. Further,

I quote from this report: "This is an attempt at substitution of state paternalism for individualism."

Attention was called to the statement of Mr. Frederick Hoffman, the great statistician who said:

"It is most fortunate for the American medical profession that it has been aroused to a consciousness that danger threatens its future and there is practically now a united front in relentless opposition to the nefarious activities of social reformers, whose allegiance is rather to the socialistic party than to the American Republic. Eternal vigilance alone will safeguard the interest of the profession and the American public against the ever present possibility of renewed efforts which may assume directions wholly unanticipated."

The truth of his predictions of thirty years ago is evident to all.

A conference was held in Washington in 1916 and Frederick L. Hoffman speaking before the conference stated:

"The suggestion of a compulsory system of Health Insurance comes carelessly near to being a menace to our fundamental conceptions of a Republican form of Government."

Samuel Gompers, President of the American Federation of Labor at this Congress stated:

"Look over the world where you will and see those governments where the features of compulsory benevolence have been established, and you will find the initiative taken from the hearts of the people." * * * "I bid you have a care in all these attempts to regulate the personal activities of the citizenship of our country ere it be too late. For a mess of pottage, under the pretense of compulsory social insurance, let us not voluntarily surrender the fundamental principles of liberty and freedom, the hope of the republic of the United States, the leader and teacher to the world of the significance of this great anthem—chorus of humanity—Liberty."

In the periods intervening between 1917 and 1950, social welfare groups, medical groups, and others, have continued their investigations into the subject of medical care for the population as a whole. Miss Esther Everett Lape, who was Secretary of a Committee apopinted in 1935 by President Franklin Roosevelt, in 1937 stated:*

"That a large problem that concerns all of us has been falsely narrowed into a controversy, not between doctors, but between organized medicine, regarded by the other side as a guild of reactionaries, defensively protecting a vested interest, and social welfare groups carrying the banner for the underprivileged." . . . "The doctors fought and at the clarion call—doctors in every hamlet ran forth with their muskets to line up against State Medicine."

This remarkable characterization of social welfare groups as angels, and doctors as a group of "devil may care" reactionaries, has continued to be the propaganda line of groups now in power and represented by Mr. Ewing, who aspires to a cabinet status.

We are all familiar in a general way with the English "Beveridge" plan. Within the past year a report on the National Health Service of Great Britain was made by Dean Williard C. Rappleye. This report is worthy of careful perusal by all. More recently the Board of Trustees of the American Medical Association appointed a Committee of five members to spend six weeks in England, Scotland, and Wales, to study medical care under the National Health Service.*

The overcrowding of Hospitals, the long waiting periods, the restrictions as to freedom of action by surgeons and medical men generally and the complete control of hospitals, endowment funds, consultation service, and the general deterioration of initiative is carefully presented in this report.

A few quotations might be serviceable:

1—"The General Practitioner in Great Britain as we observed him is no longer a free independent professional person."

2—"The recommendations of a professional committee in a hospital will go to the hospital management committee through the hospital administrator, then to the management committee, through the hospital administrator, then to the management committee for the group, and then to the Regional Hospital Board. The reply will travel back along the same tedious route, so that a debate on a particular point may extend over many months. These reports if acted on by the Board and if approved are consolidated and sent to the Minister. The report may be accepted by the Minister or sent back to the Regional Boards for revision."

"*Consultants* work and are paid on a so-called sessional basis. A session is three and a half hours, which includes the time in transit from home or

*Atlantic Monthly.

*Journal of the American Medical Association, August 19, 1950, pp. 1420-1434.

office to the hospital and return. A full time consultant works eleven sessions a week and may not engage in private practice. *The only thing that he has lost is his freedom. He is surely chained to his post as though he were bound by visible shackles.*"

"This plan is weakening the moral fibers of the physician and destroying the age long concept of the profession as to its duty to labor diligently as long as there is suffering that needs to be relieved. The waste of medical talent is appalling. *One wonders whether this plan was conceived in ignorance or with a cynical purpose of corrupting an ancient profession.*"

"*Powers of the Minister*—The Minister has adequate power to seize and himself operate any teaching hospital in the country if any action of its Board of Governors runs counter to the opinion or desires of the Minister."

It seems needless to repeat that we have an obligation to keep the profession alert, and to cooperate in any and every effort which will maintain for us and for the people of our country their individualism and their liberty so that the initiatives and ambitions of the profession may not be dulled and that the public be not presented with a counterfeit which has not worked to the advantage of Great Britain and other countries.

It becomes our duty on every occasion to remind both the profession and the public what pioneer individualistic medicine has accomplished in our own country. The enthusiasm and individual interest of William Beaumont, and his studies of gastric juice on Alexis St. Martin has left an indelible mark on physiology. Crawford W. Long and Morton pioneered in anesthesia. Marion Sims and McDowell, fathered gynecology. Gorgas, Reed, Lazear, Carroll, and Agramonte, overcame obstacles placed in their way and made possible the building of the Panama Canal. Andrew W. Smythe and Rudolph Matas, pioneered in vascular surgery. Halstead, Meyer, and others in the great fight against cancer.

Individual philanthropy and not paternalistic, socialistic forms of government provided us with the Rockefeller Foundation and other similar foundations which have added glory to the diadem of initiative and desire to be of service on the part of the American people.

Hospitals which have been organized and brought to a high state of usefulness came to us through the generosity of individual citizens, religious orders, and philanthropic foundations. Most of our great medical schools represent philanthropy and not paternalism on the part of the government.

I have stated that it is the object of this Society to stimulate interest in problems relative to general welfare. One of the problems which is acutely facing us today and which has to do with general welfare is the tendency on the part of nursing educators to revolutionize the system of nursing and nursing education. The present trend in nursing education is to create nursing education schools within Universities and to train subsidiary groups of trained practical nurses for bedside nursing. I would not decry education for nurses, but at the same time it is our duty to see that no one belittles those who stand by the bedside and who under supervision of the doctor in charge aid in the battle for recovery of the individual patient. We need bedside nurses. The present trend in nursing education is to develop nursing education schools within universities. It is the planned purpose of this group: "For the university school to enter into relations with other institutions exclusively to obtain necessary clinical laboratories and not to help provide nursing service for patients." One of the supervisors of a School of Nursing, with a university status stated: "In Nursing Education the student is the center of the program, whereas hospital nursing service revolves about the care of the patient. The School of Nursing is no part of our hospital organization."

These nursing educators would have the hospital training schools which have apprenticeship type of training "relinquish their schools to auspices whose exclusive function is education."

Myron Anderson very frankly stated: "It is not necessary to destroy the present system or to make the registered nurse a displaced person in order to improve nursing education." We thoroughly agree with his conclusion that "Bedside nursing is a skill

which must be learned and taught largely by the apprentice method."

Miss Margaret Conrad, the Director of Nursing at Columbia University Medical Center, has forcefully reminded nursing educators that "The fundamental principles of nursing and health become effective at the bedside, the clinic, and in the hospital. No amount of pressure should shake one's firm conviction on this point."

Sister Henrietta, the Director of the School of Nursing at Charity Hospital in 1948, stated:

"The nursing department which we are going to organize will be built to serve the patient." * * * "The statement is heard frequently that better education of students will result in better care of patients. But does it?"

The American Surgical Association and the American Medical Association have both protested against the supereducation of nurses and the lack of appreciation of the importance of actual bedside training.

It should be our definite purpose to try to counteract the tendency toward supereducation which overlooks service and the ideals of the founder of modern nursing education and service, Florence Nightingale.

The tendency is to try to drive out of existence the hospital training school for nurses and to substitute *pseudo-doctors*, *social workers*, and *psychologists*, for the time honored humane cooperative service rendered by the registered nurse. The highly educated personnel envisioned by the nursing educators would deprive the public of the well trained bedside nurse and substitute nurses aids and ward helpers. The trend away from bedside nursing must be halted. We cannot stand idly by, we must actively intervene.

Let us make every effort to develop and encourage increased hospital efficiency and better records throughout our state. It should be our duty to stimulate the younger men to a full realization of the importance of devotion to duty and intellectual integrity. If these ideals are realized we may feel confident that this Society will contribute to the improvement of surgery as practiced in this State.

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CULDOCENTESIS*

DAN W. BEACHAM, M. D.†

W. D. BEACHAM, M. D.†

NEW ORLEANS

There is considerable difference of opinion among physicians in this locality in regard to the advisability of aspiration of the the cul-de-sac of Douglas in the diagnosis of cases suspected of having hemoperitoneum or suppurative states involving the most dependent portion of the female peritoneal cavity. Review of the modern textbooks of gynecology and obstetrics, as well as recent articles on ectopic pregnancy, reveals that this difference of opinion is found elsewhere. This variation in opinion is not due to lack of knowledge of the procedure, for culdocentesis has been employed for many years. Clinton Cushing, Professor of Gynecology, Cooper Medical College, San Francisco, California in 1888[1] was among the first to write of the value of aspiration of the cul-de-sac in gynecic diagnosis and therapy. However, no study of a large series of cases in which this procedure has been performed could be found. The foregoing being true, it appeared to be interesting to study a large group of aspirations done in one institution.

The records of patients admitted to the Charity Hospital of Louisiana at New Orleans from January 1, 1947, to February 1, 1950, have been searched and 284 cases were found. The records of patients cared for in the clinics and the admitting departments are not indexed according to diagnosis or procedure; consequently, most of them could not be obtained; however, the authors have been active as residents or visiting gynecologists and obstetricians in this institution during the period under consideration and have found that it is the opinion

*Presented at meeting of the Orleans Parish Medical Society and the New Orleans Gynecological and Obstetrical Society, April 10, 1950.

†From the Departments of Obstetrics and Gynecology of Tulane University School of Medicine and Charity Hospital of Louisiana at New Orleans.

of the majority of those who have performed these procedures that at least one aspiration has been performed upon an out-patient for each aspiration performed upon an in-patient. Consequently, it is estimated that more than 500 culdocenteses have been done during the period under consideration. As well, it is the common practice of the great majority of Charity patients to return to this institution for further care, so that the majority of complications should have been found.

PROCEDURE OF CULDOCENTESIS

Aspirations have been performed in the majority of cases suspected of having hemoperitoneum and for those suspected of having abscesses partially or entirely situated in the cul-de-sac. The place of performance has been individualized. The majority (55 per cent) of the procedures have been done in the clinics or in the admitting rooms. About 30 per cent of the total have been done in the examining rooms for in-patients. The remaining 15 per cent have been performed in major operating rooms. The majority of the last group have been done just prior to colpotomy for the drainage of pelvic abscesses.

The preparation of the patient for culdocentesis ideally would include shaving of the vulva and thorough cleansing of the vulva and vagina; however, for the majority of the cases under consideration these precautions have been omitted. It has been the routine procedure only for those performed in the operating rooms. Similarly, general anesthesia has been employed only for those in operating rooms. Though analgesia is desirable prior to the performance of aspirations on patients with tender pelvic structures, in this institution analgesics have rarely been given to out-patients and have been frequently omitted for the in-patients. Some of the in-patients have received intravenous meperidine hydrochloride to give analgesia more rapidly prior to the performance of the procedure. It has been observed that the majority of patients tolerate the short period of maximum pain without untoward effects.

The instruments most commonly employed are: a bivalve vaginal speculum, 18 gauge spinal needle, glass adapter with tubing, and an aspirating syringe. Often a 5 or 10 cubic centimeter syringe has been substituted for the adapter, tubing, and larger syringe. The instruments and gloves utilized have been sterile and dry.

The patient is placed in the usual lithotomy position of abdominopelvic examination (Figure 1). After palpation, the speculum is inserted so as to expose the cervix and posterior vaginal fornix. The posterior lip of the cervix is grasped and elevated with the volsellum or tenaculum (for some patients this is not necessary). The posterior fornix is sponged dry and an antiseptic solution, commonly tincture of merthiolate, is applied. The needle is thrust into the center of the cul-de-sac or into the previously felt mass therein. The direction of introduction is as nearly parallel to the body of the uterus as is practical. The depth of insertion has rarely exceeded 2 centimeters. Suction is applied with the syringe. If no fluid is obtained, the suction is maintained as the needle is slowly withdrawn. The needle end may have been occluded at the depth of the insertion and may "find" the fluid as it is withdrawn. In order to decrease the likelihood of laceration of blood vessels or intestines the end of the needle should not be made to wander. Usually the needle should be completely withdrawn in one minute, lest intravascular blood be aspirated and allowed to clot in the needle or syringe. If blood from a vein or artery is aspirated, or if feces is aspirated, another

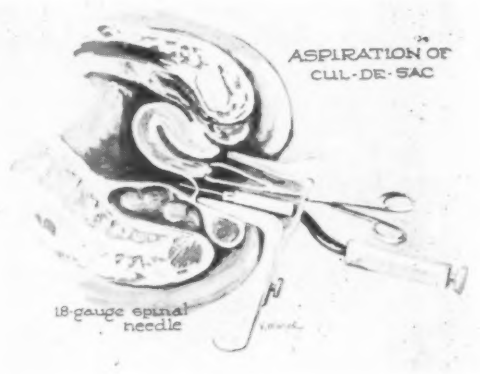

Figure 1

aspirating set is used for the repeat aspiration. If nothing is obtained on the first attempt, the needle is reinserted with a change of direction and/or position. As a general rule, not more than three insertions have been performed at one examination. If the anticipated results are not found, after a period of several hours the aspirations may be attempted again. The fluid obtained should be examined immediately. No special after care following the procedure per se has been given.

INTERPRETATION OF CULDOCENTESIS

If no material is obtained, the interpretation should be that of a faulty aspiration in the majority of instances, because the peritoneal cavity usually contains enough fluid to be aspirated. This may be a very small amount—ranging from one to two drops.

Clear or faintly cloudy fluid may be obtained from the peritoneal cavity or from adnexal cysts. This fluid should be studied by smear. Definitely cloudy fluid may likewise be obtained from similar structures and should be studied by smear, and in some instances by culture. When frank pus is aspirated, it is obvious that an abscess or peritonitis exists. This material should be routinely examined by smear and culture.

When blood is aspirated, the determination of its source is particularly important lest false interpretation lead to unwarranted surgery. The blood aspirated from a vein or artery will clot. All blood aspirated should be observed for six mintues for the process of coagulation. The routine employment of this procedure is the only means of avoiding false interpretation. (In instances of certain blood dyscrasias longer periods of observation may be necessary). The color of the blood obtained is not a reliable indicator. It has been noted that at times blood of venous origin is very dark, and conversely, on other occasions blood aspirated from a hemoperitoneum of recent development may be quite bright. If the blood does not clot, it is evident then that it has been obtained from a hemoperitoneum or cyst filled with blood. At times, one may expel a small portion of blood on a smooth surface such as glass or paper and see small fragments of old blood clots, which are diagnostic of blood of extravascular source. At times, bloody fluids have been obtained. If they are of a light (pink) color, the most common cause is trauma of the puncture. More markedly bloody fluids have been obtained from torsion of cysts, tumors, or intestines. Since these conditions warrant surgical intervention, the differentiation of a grossly bloody fluid from a true hemoperitoneum is not essential. Feces is usually easily recognized in the solid state by its gross characteristics; however, in the liquid state it may lead to confusion and study by smear may be necessary.

ANALYSIS OF CASES ASPIRATED

The first chart (Table 1) lists a total of 194 cases in which blood has been aspirated and laparotomy performed. It is noted that the great majority of these cases have been associated with eccyesis and it is in the recognition of hemoperitoneum due to this cause that aspiration has been of greatest value. Of the 15 patients with hemoperitoneum of other origin, on 10 occasions the diagnosis was thought more likely to be an ectopic pregnancy with bleeding into the peritoneal cavity. The amount of bleeding

TABLE 1
CULDOCENTESES PERFORMED AT CHARITY HOSPITAL OF LOUISIANA AT NEW ORLEANS—JAN. 1, 1947 TO FEB. 1, 1950
BLOOD ASPIRATED—LAPARATOMY PERFORMED

Diagnoses	Cases	Diagnoses	Cases
Ectopic pregnancy	174	Ruptured broad ligament cyst	1
Ruptured "simple" ovarian cyst	3	Volvulus of sigmoid	1
Ruptured graafian follicle	2	Volvulus of ileum	1
Ruptured corpus luteum	1	Ruptured spleen	1
Endometriosis	1	Metastatic carcinoma of liver, intestine, etc.	1
Granulosa cell tumor	1	Puncture wound of cul-de-sac	1
Uterine myoma with degeneration	1	Intravascular aspiration (misinterpreted)	5

in all but 3 of these cases justified the surgery performed.

You will note that in 1 instance the bleeding occurred from a puncture wound of the cul-de-sac due to previous aspiration. This is the only instance found among these records in which there was sufficient bleeding from needling to confuse the diagnosis. At laparotomy about 20 cubic centimeters of blood were found, however, no suturing was necessary. As noted on this chart, on 5 occasions there has been misinterpretation of blood aspirated from veins or arteries. It is evident that with due precaution this error can be completely avoided. If one considers these five errors as compared with over 500 aspirations then the percentage of error is less than 1 per cent.

The next chart (Table 2) lists the diagnoses in the remaining cases which were aspirated. In one group have been included the instances of salpingo-oophoritis, peritonitis, functional bleeding, uterine pregnancies, and ovarian cysts, for it is in this group that the majority of out-patients have been found. On 69 occasions pus was aspirated from cul-de-sac abscesses. The majority of these patients were given benefit of colpotomy. On 2 occasions aspirations were performed just prior to colpotomy for what was thought to be abscesses when to the operator's surprise blood was obtained. This emphasized the advisability of always aspirating the cul-de-sac before incising it, for by so doing not only is the location of the pus identified and a guide established but it will occasionally avoid unnecessary colpotomy for those who treat the majority of ectopic pregnancies by laparotomy. As well, the pus obtained by needle aspirations is much less likely to be contaminated with vaginal organisms than that obtained after colpotomy, should one be interested in the study of the bacterial flora of these abscesses. As noted on the chart, for 9 patients, which is 4.8 per cent of those who had hemoperitoneum as established at laparotomy, no blood was obtained. On some occasions this failure was explained by the adhesion of bowel and omentum in the cul-de-sac or by the presence of a retroverted uterus or solid tumor there. However, it is much more likely that failure of aspiration is a technical difficulty. This error can be reduced by repeating the aspiration later.

On at least 6 occasions feces has been aspirated. In none of these 6 cases has a fistula developed. Similarly, in none of those operated upon for hemoperitoneum has an abscess or peritonitis occurred as a result of perforation of the bowel. From 1 patient liquid feces was aspirated three times. Following salpingectomy for tubal pregnancy this patient made the usual rapid recovery. This indicates that needle puncture wounds of the intestines in this series of cases have not jeopardized the lives of the patients involved. (See Complications)

THE VALUE OF CULDOCENTESIS

The marked variations in the manifestations of ectopic pregnancy have been repeatedly emphasized by those writing about the subject and are repeatedly emphasized to those who treat women exhibiting this interesting disorder. Practically all of the patients treated surgically for this condition exhibit hemoperitoneum to some degree. The recognition of hemoperitoneum of marked degree is usually easy; however, the recognition in its lesser degrees may be most difficult. The positive identification of blood within the peritoneal cavity necessitates aspiration thereof or visualization of the cavity by colpotomy, peritoneoscopy, or laparotomy. It would then seem that culdocentesis is the simplest and most

TABLE 2
CULDOCENTESES PERFORMED AT CHARITY HOSPITAL OF LOUISIANA AT NEW ORLEANS—JAN. 1, 1947 TO FEB. 1, 1950

Diagnoses	Cases
Salpingo-oophoritis, peritonitis, "functional" bleeding, uterine pregnancies, ovarian cysts, etc.	300 plus
Abscesses	69 (pus obtained)
Hemoperitoneum (eccyesis)	9 Aspiration failed (4.8%)
Feces aspirated	6 (Known cases)

practical means of positive identification of hemoperitoneum. Since in many patients the differential diagnosis is not readily established, this diagnostic aid will lead to more rapid diagnsosis and therapy. Numerous instances could be cited in which the results of aspirations were the determining factors in admitting the patients to the hospital and in other instances were the determining factors in early definitive surgery.

This procedure is being employed more commonly every year on the three gynecological services of this Hospital. (Figure 2) Prior to 1947 culdocenteses were utilized

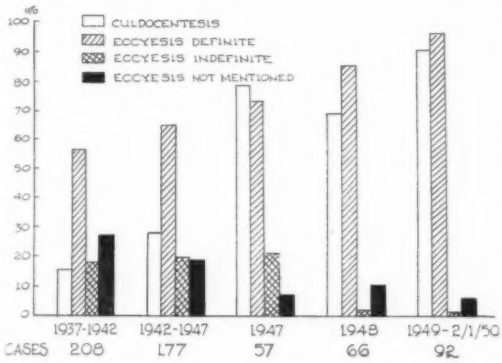

Figure 2. Accuracy of preoperative diagnosis of ectopic pregnancy.

in less than thirty per cent (30 per cent) in cases with ectopic pregnancies and the accuracy of a definite preoperative diagnosis was less than 65 per cent. During the last thirteen months of this study, aspirations were performed upon 90 per cent of the patients found to have ectopic pregnancy and the definite preoperative diagnosis was entered in the record correctly in 95 per cent of the cases. Similarly, it has been noted that as the procedure is being more frequently utilized the percentage of those patients in which the diagnosis was eccyesis versus some other pelvic condition has been markedly decreased. (Over 20 per cent of the cases prior to 1947, less than 1 per cent of the cases 1949-50).

The value of aspirations is again noted (Figure 3) in that during the last thirteen month period under consideration with its 90 per cent aspirated, over 80 per cent of

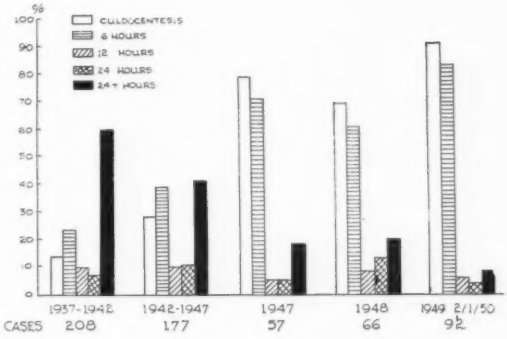

Figure 3. Preoperative stay in hospital of patients with eccyesis.

these patients were operated upon in less than six hours after their admission to the hospital.

The analysis of the deaths due to ectopic pregnancy which have occurred in this Charity Hospital since 1937 reveals that had the first physician who saw the patient suspected hemoperitoneum and performed aspiration, the majority of these deaths could have been prevented.

COMPLICATIONS FROM CULDOCENTESIS

No death has occurred from complications or from misdiagnosis in the 284 inpatients for whom this procedure had been performed. Similarly, no death was found among the out-patients. Though there has been no proved case of abscess or severe peritonitis due to needling, there have been 2 cases in which it was suspected that needling may have been involved in the pathogenesis of these conditions. Both of these patients had findings compatible with infectious pelvic diseases at the time the aspirations were performed and in light of the known bowel injuries without complications it is difficult to state what part the needling may have played.

There have been no patients in whom malignancy has been spread by this procedure nor in whom irritative material has been allowed to escape from ovarian cysts and cause difficulty. Of the 15 cases who were found to have uterine pregnancies there was no abortion which could be attributed to needling. As previously listed, aspiration failed in 4.8 per cent of the cases with hemoperitoneum. This has been

thought to be primarily due to technical difficulties and it is felt that the error can be reduced by repeating the aspiration after a short period of time.

As a result of these procedures 6 laparotomies have been performed for mistaken diagnoses. One of these, as was previously indicated, was due to bleeding from the puncture wound. On 5 occasions the blood was aspirated from within a vein or artery and its source was not properly interpreted. This error is completely avoidable and emphasizes the necessity of proper routine observation for coagulation.

CONCLUSIONS

1. The technic and interpretation of culdocentesis have been presented.

2. An analysis of over 500 cases in which aspiration of the cul-de-sac has been performed at Charity Hospital of Louisiana at New Orleans from January 1, 1947, to February 1, 1950, has been presented.

3. The value of the procedure in the early diagnosis of ectopic pregnancy has been indicated by revealing the increase in the accuracy of preoperative diagnosis and the decreases in the preoperative hospital stay which has been associated with the increased employment of this diagnostic aid.

4. Of the 194 cases with hemoperitoneum in which aspiration was attempted, failure occurred in 4.8 per cent.

5. Of the total number of aspirations (over 500) misinterpretation of blood obtained has lead to unwarranted laparotomy in 6 cases. Means of avoiding this error are given.

6. Culdocenteses are being more frequently performed each year by the three gynecological services (under the direction of two medical schools and an independent medical group) in this large Charity Hostipal.

Note: We wish to acknowledge the cooperation of recent residents in obstetrics and gynecology who have made this report possible.

REFERENCE

1. Cushing, Clinton: A contribution to the study of pelvic abscess. Buff. Med. Surg. J. 28:369, 1888-89.

PARTIAL EXCISION OF THE INFERIOR VENA CAVA IN SUPPURATIVE PELVIC THROMBOPHLEBITIS*

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NEW ORLEANS

Ligation of the inferior vena cava and of the ovarian veins is an effective treatment of suppurative pelvic thrombophlebitis.[1-7] In the series of 70 cases treated in this fashion by members of the department of gynecology at Tulane University School of Medicine, resection of a portion of the inferior vena cava has been performed in 1 case.

A recent report by Marshall and Schmidlapp[8] of the successful excision of the inferior vena cava in the removal of a renal neoplasm noted that the literature included reference to only 5 cases of segmental excision of this vein. That the procedure is feasible below the renal veins is further demonstrated in this report.

CASE REPORT

A 21 year old colored female was admitted as an emergency to the Tulane Service at Charity Hospital of Louisiana at New Orleans at 8:10 AM on September 8, 1949 with a complaint of chills and fever of five days' duration. There was no history of chest pain or hemoptysis. She complained of a mild cough.

Her last normal menstrual period was June 25, 1949, with a duration of seven days and a flow requiring four pads a day. On September 1 she had intrauterine interference with a catheter in the morning. That evening she began cramping and bleeding. Two large clots passed. She did not know if products passed. She had been spotting since but had no pain. Chills and fever began on September 3. Her local physician prescribed sulfonamides and penicillin. The dosage was not known by the patient. She had been having daily bowel movements. She had no urinary complications. Her past history revealed menarche at the

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age of 13, cycle of thirty days with six day duration and a flow requiring 4-6 pads.

Obstetrical History: Grav. IV Para III. Deliveries in 1945, 1947, and 1948, at Charity Hospital, spontaneous and without complications ante, intra or postpartally. She had been married five years.

In January 1949, she was treated at Charity Hospital for pruritus vulvae.

Since her last pregnancy in 1948 she had mild varices of both lower extremities.

The remainder of the patient's history was not significant.

Physical examination on September 8 revealed a drowsy colored female who appeared acutely ill. Temperature was 102°F. Pulse 94 and respiration 26. Blood pressure 98/62 right arm, and 100/60 left arm. There was slight ptosis of her right eyelid. Heart and lungs revealed no significant findings. The lower abdomen was tender in the midline. Peristalsis was present and active. Her reflexes were hyperactive. The lower extremities revealed mild varices bilaterally. Homan's test was negative. There was no leg tenderness. Pelvic examination revealed normal female hair distribution; labia majora, minora and clitoris normal. The introitus was parous. There was a mild cystocele and rectocele. Bartholin and Skene's glands were negative. The cervix was soft, dilated 1 centimeter. There was no fetal tissue presenting. The fundus was retrodisplaced, size of a two month pregnancy, soft and tender. The adnexae were tender bilaterally. No masses or veins were palpable. The diagnosis was incomplete septic abortion. Treatment consisted of bed rest, pencillin 50,000 units every three hours and streptomycin, grams ½ every three hours. Tetanus and gas antitoxin were given after sensitivity tests were negative.

Laboratory tests on the day of admission were: Chest x-ray, negative. Malaria smear negative. Wassermann and Kline negative. Hematocrit 33, Hemoglobin 14 grams. Blood urea nitrogen 25. Blood was drawn for culture and for agglutinations which were later reported negative. These included typhoid, paratyphoid, *Brucella abortus* and Proteus X19.

In the evening of the day of admission the patient's temperature was 104°F., pulse 140 and respiration 30. The following day the patient had slight vaginal bleeding. She had a temperature elevation to 101.6°F. There was tenderness over the suprapelvic portion of the right ovarian vein. A pelvic examination revealed no palpable veins or masses. A repeat malaria smear was negative. Urinalysis revealed numerous WBC and casts. Penicillin was increased to 100,000 units every three hours.

The following day, at 6:45 A.M. the patient had a severe chill. Her temperature was 102.4°F. at 8:00 A.M. and 103.2°F. at 12:00 noon. She had received a total dose of 1,350,000 units of penicillin and 5 grams of streptomycin since admission. The blood count and urinalysis were not significantly different than on the day of admission. A repeat chest x-ray was negative.

Suppurative pelvic thrombophlebitis of the ovarian veins was diagnosed. It was thought that the chill was a symptom of infarction and ligation of the inferior vena cava and the ovarian veins was recommended. At 4:00 P.M. on September 10, 1949 the patient was operated upon.

Under spinal anesthesia, by means of a lower abdominal midline incision, the abdomen was opened. Inspection of the pelvic viscera revealed the uterus to be about the size of a two months' pregnancy, soft and normal in color. The right ovarian vein was dilated and thrombosed The peritoneal reflection of the cecum and ascending colon was incised and the cecum and ascending colon retracted medially exposing the retroperitoneal space The right ovarian vein was thrombosed throughout its length. The vena cava was exposed by means of sharp and blunt dissection. Palpation of the vena cava at the junction of the right ovarian vein revealed the presence of a hard, movable mass, freely movable, within the lumen of the cava and extending cephalad to a level approximately opposite the renal veins. The small mass was manipulated caudad and a ligature of crochet cotton was placed proximal to it. During the attempts to retract the thrombus a small fragment was felt to break off. After the proximal ligature was placed, a similar ligature was placed distal to the clot. About 1.5 centimeters of the cava between the ligatures was then resected. The ligatures were then reinforced with transfixion sutures of chromic O catgut. The right ovarian vein was then freed from the adherent right ureter and periovarian inflammatory tissue, and a right salpingo-oophorectomy was then performed. The specimen was removed intact (Fig. 1). The right

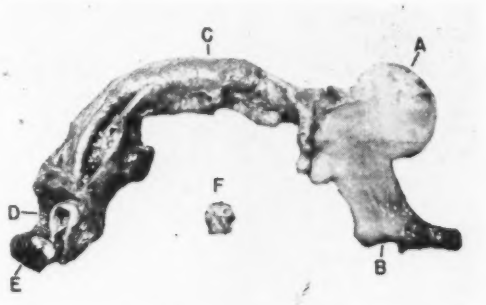

Fig. 1. A—Right ovary. B—Right fallopian tube. C—Right ovarian veins containing thrombus. D—Segment of vena cava. E—Thrombus in vena cava. F—Normal left ovarian vein (segment).

lumbar sympathetic chain was then divided, the peritoneum sutured in place. The left ovarian vein was then inspected and found free of gross disease. It was ligated and a 1 centimeter segment

resected (Fig. 1). The abdomen was then closed.

During the procedure the patient received 500 cc. of blood. Blood loss was less than 300 cc. At the termination of the procedure the patient's blood pressure was 90/60 mm. of Hg. The anesthetist noted that about fifteen minutes after the fragment of clot was dislodged the patient had a chill.

The specimen (P. D. report) removed was a Fallopian tube measuring 7.5 cms. in length and 0.7 cm. in diameter. An ovary measuring 3.0 by 2.5 by 1.5 cm. containing a corpus luteum 1 cm. in diameter.

The right ovarian vein measured 14 cm. by 1.7 cm. The lining was dull, irregular, and dark brown except for an area 2 cm. in length that was smooth and glistening. The 2 cm. length of vena cava presented an organizing thrombus 1 cm. in diameter on a small pelicle about 2 mm. in diameter extending from the orifice of the ovarian vein.

The segment of left ovarian vein was 3 mm. in diameter and normal.

The microscopic examination revealed right ovarian vein with septic thrombophlebitis, vena cava with subacute thrombophlebitis and thrombus with early organization. The right ovary revealed thrombosis of the veins of the ovarian hilus.

Postoperatively the patient's temperature was 100.2°F., pulse 108 on the first day. Bilateral lumbar sympathetic blocks were begun. These were repeated daily. Antibiotics were continued. On the second postoperative day the patient aborted. Her highest temperature was 101.2° and pulse 108. Peristalsis was active. On the fourth postoperative day the patient was ambulatory. A chest x-ray was negative. The patient's highest temperature was 100.8° until the sixth postoperative day when antibiotics were discontinued. On the eighth postoperative day the temperature was 101.4°F., and pulse was 124. She had signs of thrombophlebitis of both legs. (See Fig. 2 for leg measurements.)

LEG MEASUREMENTS

	Arch		Ankle		Calf		Thigh	
	L	R	L	R	L	R	L	R
Pre-op	23	24	17¾	21	33	32¾	41	42
Post-op								
1	23.8	23.8	19.9	20.5	33.0	33	41	42.5
4	23.0	23.5	19.5	20	32	32	41	40.5
6	23	24	20.6	21	33.2	34.8	42.2	43.5
9	23	24.2	21	20.5	33	34.5	40.5	41.2
20	22.5	23	19.2	19.4	31.5	31.4	38.8	38.8

On the twelfth postoperative day the patient was transfused. Her hematocrit was 25. She had a febrile reaction with temperature elevation to 104°F., and pulse to 120. She continued to have a septic course and signs of bilateral thrombophlebitis of the femoral veins until the eighteenth postoperative day when she was afebrile and asymptomatic. She was discharged home on the twenty-first postoperative day.

CONCLUSION

A case of resection of the inferior vena cava immediately below the renal veins for suppurative thrombophlebitis is reported. The patient's postoperative response was in no way different from similar cases in which simple ligation of the vena cava has been performed. It demonstrates that the veins may be safely resected when involved in inflammatory disease, as well as in tumors, as had been previously reported.

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NITROGEN MUSTARD IN THE TREATMENT OF ADVANCED CARCINOMA OF THE LUNG

ANALYSIS OF 68 CASES

W. B. AYERS, M. D.

NEW ORLEANS

Gilman and coworkers[1] were the first to use a nitrogen mustard compound in the treatment of neoplastic disease; in 1943, they employed tris (B-chloroethyl) amine hydrochcloride for this purpose. Soon after this, a number of authors[2-6] began using methyl-bis (B-chloroethyl) amine hydrochloride, a drug which produces less severe local reactions (i. e. venous thromboses) than the former. An analysis of a three year experience with the use of "methyl-

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bis," or nitrogen mustard, in 68 patients with advanced carcinoma of the lung forms the basis of this report. The cases were analyzed with respect to the distribution according to age and sex (Table 1), histologic types, toxic reactions and results of therapy. Methods of establishing the diagnosis are shown in Table 2.

TABLE 1
INCIDENCE ACCORDING TO AGE AND SEX

Age Years	Male	Female
30-34	1	0
35-39	0	1
40-44	9	0
45-49	8	1
50-54	11	1
55-59	12	2
60-64	10	3
65-69	6	1
70-74	2	0
Total	59	9

Ratio Male:Female 6.5:1.

TABLE 2
METHODS OF ESTABLISHMENT OF DIAGNOSIS

1. Thoracotomy	28
2. Bronchoscopy	5
3. Biopsy regional lymph nodes, cutaneous lesion ribs, etc.	14
4. Roentgen ray alone	2
5. Pleural fluid smear	1
6. Combined methods	
a. Biopsy node, positive sputum	3
b. Biopsy node, bronchoscopy	4
c. Thoracotomy, bronchoscopy	6
d. Biopsy skin metastasis, positive sputum	2
e. Pleural fluid and sputum positive, roentgen ray	3
Total	68

The chemical formula of the nitrogen mustards has a fundamental structure,[7] as shown in figure 1. The "bis" group is essential for its toxicity, but the "R" group may be varied without effect. In aqueous solution it undergoes a series of transformations, the first transformation product being an ethylene-immonium which is the physiologically active part. The linkage is shown[7] in figure 2. This is important from a purely pragmatic viewpoint, for the drug must be given within five minutes of the time of dilution, and then it must be injected rapidly, so that the alkyl-amine is preserved.[8]

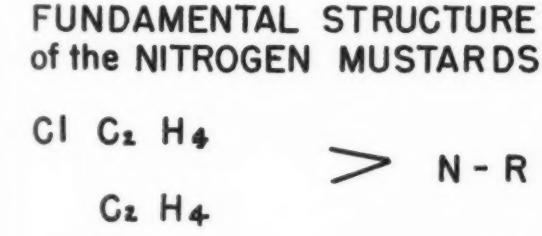

Fig. 1. Fundamental structure of the nitrogen mustards.

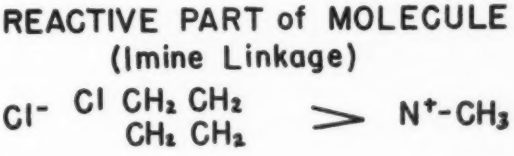

Fig. 2. Reactive part of molecule (imine linkage).

There are a number of effects attributable to "methyl-bis," or nitrogen mustard, the drug used exclusively in the present series. Among these are reduction of oxygen consumption, depression of aerobic and anaerobic glycolysis, inactivation of certain enzyme systems, chromosomal abnormalities and inhibition of mitotic activity of proliferating cells.[9, 10] It is, of course, the last mentioned effect which has led to its use in cancer. Other than the toxic effects on the proliferating cells there are certain immediate and delayed untoward reactions. The immediate ones are thrombophlebitis at the site of injection (which can be prevented by rapid and well diluted injections), nausea and vomiting (treated with barbiturates, pyridoxine, dramamine), anorexia, malaise, headache, vertigo and diarrhea. Delayed toxic reactions, such as anemia, granulocytopenia, lymphopenia, thrombocytopenia, reticulocytopenia, tissue sloughs, and thrombosis, are less familiar, and although uncommon, are serious. Treatment of these reactions consists in the administration of fresh blood transfusions. Questionable hepatic damage has been reported although Jacobson and associates[2] noted no ill effects when nitrogen mustard was given to patients with pre-existing hepatic and renal disease. It might be added that in the

reported cases in which neutropenia did develop, secondary infection, oddly enough, was rare. The neutropenia was not affected by pentnucleotide, ferrous sulfate, leukocytic factor, folic acid, or whole blood. These added toxic effects are apparently due to a direct action of the drug itself. They are rapidly completed and apparently not related to the "alarm reaction" of Selye.

The effect of nitrogen mustard on the proliferating cells is radiomimetic, as far as can be determined.[8, 11] However, recovery from its toxic effects is more rapid than that from total body exposure to an equivalent effective dose of roentgen ray. This makes it possible to control dosage more closely than in total body irradiation by roentgen ray or radioactive isotopes.

In laboratory experiments, Karnofsky[12] showed that if nitrogen mustard is given before roentgen ray, an additive effect occurs, but if given in reverse order, roentgentherapy seems to interfere with the effect of the nitrogen mustard. Accordingly, it is recommended that the course of nitrogen mustard precede the roentgentherapy. However, in the present series, as well as in other series, there has been no striking difference in results of treatment between nitrogen mustard with roentgen ray and nitrogen mustard alone.

Varying results have been noted in the numerous reports in the literature. Rhoads[6] reported 30 cases with objective improvement in 12 (40 per cent). Craver[13] noted dramatic relief in 2 out of 33 patients. Skinner[14] observed clinical improvement for from six weeks to six months in 70 per cent of 25 cases; he concluded that the drug is most effective after the first course, subsequent courses being progressively less beneficial. This has also been generally true in the present series. A few of Skinner's patients showed reduction in size of the tumor. There was no apparent difference in response in the various histologic types. Lynch and coworkers[15] noted moderate to excellent relief in 69 per cent of 60 patients with 54 per cent showing objective improvement; they observed a difference in response between the histologic types. Others[16] with smaller series report little or no benefit from the use of nitrogen mustard in cancer of the lung. All agree that there is no significant prolongation of life; clinical improvement is usually limited to relief of dyspnea and cough, decrease in sputum and hemoptysis, and increase in strength, appetite and weight. Occasionally, there may be a reduction in size of the primary tumor with or without benefit in the metastatic areas, pleural effusions may absorb with re-aeration of the underlying lung, and symptoms produced by obstruction of the superior vena cava may be alleviated. The improvement may last from two weeks to two months but relapses almost always develop rapidly thereafter.

In the present series 51 patients received one course of nitrogen mustard, 11 two courses, and 6 three courses. A "course" consisted of a daily dose of nitrogen mustard in an amount calculated on the basis of 0.1 mg. per kilogram of body weight, for four days. In the 17 patients in whom the course was repeated, this was done at intervals of from eight to sixteen weeks. Of the 8 patients receiving additional roentgentherapy, 3 received it before and 5 following the course of nitrogen mustard. Three others received teropterin, one before and two after nitrogen mustard therapy. Of these 11 patients receiving additional therapy no conclusions as to the added efficacy of the additional therapy could be drawn.

The toxic reactions in this series, which were similar to those reported by others, are listed in table 3. It was thought that

TABLE 3
TOXIC REACTIONS TO NITROGEN MUSTARD THERAPY

	Cases	%
I. No reactions	27	39.7
II. Reactions	41	60.3
A. Immediate		
1. Nausea or nausea and vomiting		39
2. Rash		2
B. Delayed		
1. Jaundice		1
2. Anemia (4 requiring transfusion)		14
3. Leukopenia (requiring transfusion)		3
4. Granulocytopenia (requiring transfusion)		1

whether or not toxic reactions developed might be an indication of whether or not benefit could be expected from the methyl-bis. However, of the 40 patients who obtained no benefit, 60 per cent suffered toxic reactions, and of the 28 patients who obtained some relief of symptoms, 60.7 per cent had toxic reactions. Thus, toxic reactions occurred in approximately the same percentage of those benefitted as of those not benefitted. Therefore, no prognostic significance could be attributed to the presence or absence of toxic reactions.

The histologic types according to sex are shown in Table 4. The cell types were arbi-

TABLE 4
HISTOLOGIC TYPES ACCORDING TO SEX

	Male	Female
Epidermoid carcinoma	11	2
Adenocarcinoma	11	2
Undifferentiated	21	3
Oat cell	4	0
Undetermined	12	2

trarily grouped more grossly than was actually reported by the pathologist; for example, there are obviously different grades of both the epidermoid and adenocarcinoma types.

The results of therapy were correlated with the histologic type and the toxic reaction. As shown in Table 5, 28 patients (41.2 per cent) obtained symptomatic and 40 (58.8 per cent) no relief. Table 6 shows the shortest and longest survival periods according to histologic types. Of the total of 68 patients, 61 are dead and 7 still living. It will be noted that there is no particular difference in response between the different types (contrary to one report[15]), and there appeared to be no difference whether or not resection of the lung had been done previously.

TABLE 5
RELIEF ACCORDING TO HISTOLOGIC TYPE AND TOXIC REACTION

Type	Subjective and Objective Relief (28)		No Relief (40)	
	Toxic reactions	None	Toxic reactions	None
Epidermoid carcinoma	3	3	6	3
Adenocarcinoma	3	2	5	3
Undifferentiated	7	1	8	8
Oat-cell	2	1	0	1
Undetermined	2	4	5	1
Totals	17	11	24	16

TABLE 6
LONGEVITY ACCORDING TO HISTOLOGIC TYPE

Type	Survival in Months	
	Shortest	Longest
Adenocarcinoma	1/4	14
Epidermoid carcinoma	1	18
Oat-cell	3/4	11
Undetermined	1 1/2	11
Undifferentiated	1	9

Thus, the results in the present series have been similar to those of others, that is, about 40 to 50 per cent of patients with advanced carcinoma of the lung show transient relief of symptoms and occasional improvement in objective signs, such as relief of dyspnea and cough, decrease in sputum and hemoptysis, and increase in strength, appetite and weight. With rare exceptions this improvement lasts from one week to a few months at most, and there is always a rapid relapse. Occasionally, dramatic improvement occurs in nearly moribund patients; this was noted in 5 to 6 per cent of our 68 patients.

In conclusion, methyl-bis may be considered to be a good adjunct to palliative therapy of carcinoma of the lung, and in my opinion is worth trying in every case, for there is no way, at present, to predict its effectiveness in an individual patient.

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RADICAL SURGICAL TREATMENT OF CARCINOMA OF THE CERVIX

ANALYSIS OF 32 CASES*

JOHN C. WEED, M. D.

NEW ORLEANS

The revival of interest in the surgical management of carcinoma of the cervix has followed the great advances in surgery in general during the past decade. Meigs,[1, 2] the chief revivalist, demonstrated that the formidable operation of the past, with its high operative mortality rate, can be performed today with relatively little danger.

Reports of the results of radiation therapy from all over the world give similar figures; five year survivals have been reported from a few clinics[3] in as many as 80 to 90 per cent of cases in stage I but more frequently the figure has been around 65 to 75 per cent.[4-7] The difficulty encountered in the treatment of carcinoma of the cervix by radiation alone is caused by extension of the disease beyond the cervix, a factor which is unknown when treatment is given. It is difficult even to estimate the incidence of lymph node metastases in the early stages of cervical cancer because too few studies have been made. From patients in whom the pelvic nodes have been excised it is apparent that between 15 and 25 per cent of patients with stage I cancer of the cervix (League of Nations classification) have extension to the pelvic lymph nodes. It is probably in these cases that radiation therapy has been unsuccessful. Even radiologists[3] who believe that radiation therapy is the sole means of treating carcinoma of the cervix admit that, "Radiation therapy cannot sterilize pelvic nodes secondary to a cervical carcinoma any more than lymph node metastases from other epidermoid carcinomas, such as tongue or lip." Such a conclusion led Taussig[8] to advocate retroperitoneal pelvic lymphadenectomy, which he performed successfully in 175 patients with stage II cancer of the cervix, with a five year survival rate of 38.6 per cent in 70 patients as compared with 22.9 per cent in 118 patients treated by radiation alone.

The rebirth of radical hysterectomy or Wertheim's operation in recent years represents an effort on the part of surgeons to overcome the deficit left by radiation therapy. Admittedly, surgical treatment must be reserved for relatively early cases, but the results in such cases as reported throughout the country indicate that some improvement in recovery rates can be expected. Formerly, the initial mortality rate of such radical surgical attack was prohibitive, and the survival rates were not appreciably improved. With the initial operative mortality rate reduced to a reasonable figure, surgical attack is now logical and indeed preferable in some instances.

The surgical approach to carcinoma of the cervix has been varied. Meigs,[1, 2] who probably has the largest series in this country, operates on patients with stage I cancer who have not had previous irradiation, or those patients with stage I or II cancer which proves to be radiation-resistant. Others[9, 10] have given radium and roent-

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gen ray preoperatively, and subsequently performed surgical extirpation. Most surgeons today do not advocate operative measures as the best means of treating cervical carcinoma in the later stages; only rarely has extensive radical extirpation been employed initially in these cases.[11]

ANALYSIS OF CASES

It is our purpose to present the results of our early experience with radical surgical measures in 32 patients with cervical cancer treated at the Ochsner Clinic between August 1, 1946, and February 1, 1950. Since our longest follow-up is less than four years, this is in the nature of a preliminary report. There were 28 cases of carcinoma of the uterine cervix and 4 cases of carcinoma of the cervical stump. The age distribution of these patients is shown in Table 1.

TABLE 1
DISTRIBUTION OF 32 CASES OF CARCINOMA OF THE CERVIX ACCORDING TO AGE

Years	Uterine Cervix	Cervical Stump
30-35	5	0
36-40	2	2
41-45	6	0
46-50	3	1
51-55	10	1
56-59	2	0
Total	28	4
Range	30-59	39-53

Symptomatology—The duration of symptoms ranged from no days to more than a year. Fifteen patients had symptoms six months or less, 6 patients from seven to twelve months and 6 a year or longer. Of the latter, the onset of symptoms was somewhat indefinite in 4 but presumed to have occurred at least twelve months before. It is of interest that 5 women had no complaints but examination revealed stage I invasive carcinoma. This emphasizes the importance of careful periodic examination of women, regardless of their gynecologic status.

The chief complaint in this series was bleeding or vaginal discharge of an unusual nature. In 2 women, bleeding recurred after radium castration seven and nine years previously, and in another, carcinoma of the cervix, which was asymptomatic, was discovered eighteen years after bilateral salpingo-oophorectomy.

Degree of Malignancy—In view of the fact that this series is comprised of patients treated surgically, the clinical stage of the disease was, of course, early—stage I in 21 cases and stage I-II in 8 cases. In the remainder (cases J. B., G. G., F. B.) the clinical stage was beyond II; these will be discussed later. Cases in which edema of the parametrium subsided following roentgen-ray therapy, were left in the original clinical estimation rather than to confuse the classification system. Twenty-three patients had undifferentiated squamous cell carcinoma (Broder's grade III and IV); 6 had grade II differentiation. One was an adenocarcinoma, and the original lesion was not available for study in 2 cases.

Preoperative Radiation—Preoperatively, all except 1 patient (C. S.) received radium therapy, roentgen ray therapy or both. It has been our policy to use roentgen ray therapy initially on all fungating, infected lesions, and radium therapy initially on early invasive lesions without severe infection. In some instances, in which the initial lesion was small, roentgenotherapy was omitted. From 4700 to 5300 mg. hours of radium were employed in all cases except those in which the amount of previous radium therapy was unknown, in patients with short cervical stumps and in those in whom adequate radium could not be administered. In 17 patients, adequate roentgen irradiation was administered by members of the Department of Radiology of the Ochsner Clinic. Only 1 patient was unable to finish the prescribed course, and this was because of extensive radiation sickness.

Surgical Treatment—There was no selection of patients for operation other than that the uterus and cervix be movable following irradiation. As already noted, the eldest was 59 years of age. Three had hypertension and 1 had had evidence of myocardial insufficiency. Seven were obese, and most were well nourished. Whereas obesity impedes the facility with which dissection can be done, it has not been a sufficient handicap in our experience to contraindicate surgical treatment.

The operation, consisting of radical hysterectomy, parametrial excision, and bilateral pelvic lymphadenectomy, was performed after a variable interval, usually six weeks following radium therapy, but operation was postponed longer if radiation necrosis was pronounced. A few patients were operated upon shortly after completion of roentgen ray treatments. It has been our experience that the longer the interval between irradiation and operation the greater the amount of fibrosis. There seemed to be little difference in vascularity, and in none was hemorrhage an alarming factor. Spinal anesthetic, supplemented as necessary, was uniformly employed.

In 2 patients additional surgical procedures were performed. In one (F. B.) extension from the cervical lesion into the rectovaginal septum in the posterior upper third of the vagina led to additional abdominoperineal resection with almost complete colpectomy. In the other (G. G.) extensive necrosis and edema about the floor of the bladder and rectum one year after irradiation prompted pelvic viscerectomy with colostomy and cutaneous ureterostomies. Before operation each of these patients was informed of the formidableness as well as the complications of such procedures.

There were no hospital deaths in the entire group. Early ambulation was encouraged in every patient. The postoperative course of the 32 patients is graphically represented in figure I. Postoperative compli-

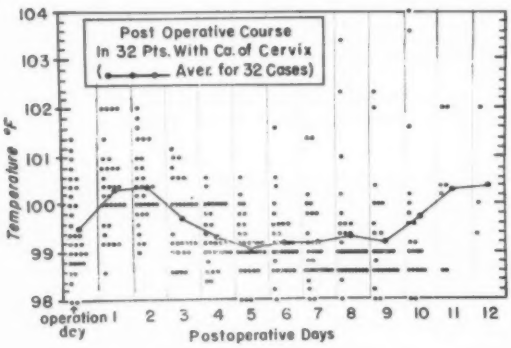

Figure 1

cations are listed in table 2. It was necessary to ligate the vena cava in both patients with phlebothrombosis since the site of the thrombosis was in the left common iliac vein. Both patients who had pelvic viscerectomy ran somewhat morbid courses with repeated urinary infections. There have been no ureterovaginal or vesicovaginal fistulas. The morbidity rate of this series was 53 per cent, based on the rigid criteria of 101° F. for any one day or 100.4° F. for any two days postoperatively, including the day of operation (Table 2).

TABLE 2
CAUSES OF MORBIDITY* IN PATIENTS TREATED SURGICALLY FOR CARCINOMA OF THE CERVIX (17 CASES)

Urinary infection	6
Atelectasis	2
Phlebothrombosis	2
Pelvic abscess	1
Retroperitoneal accumulation of lymph	3
Transfusion reactions	2
Cause unknown	5

*Based on temperature of 101° F. any one day, or 100.4° F. any two days postoperatively, including the day of operation.

Results—The immediate results in this series (Table 3) have been most satisfactory. Follow-ups have been obtained on all 32 patients in this series. Of the 28 patients with carcinoma of the cervix, 4 (14 per cent) had extension to one or more nodes. Two of the 4 patients with carcinoma of the cervical stump had extension to pelvic nodes. What the survival of these 6 patients would have been by irradiation alone is conjectural. Two of them have already succumbed (vide infra). The longest survival without recurrence is two years and seven months. Eighteen patients were operated on less than one year ago but all are well at the time of this report.

TABLE 3
RESULTS IN 32 PATIENTS WITH CARCINOMA OF THE CERVIX TREATED SURGICALLY AND FOLLOWED

Alive and Well	
More than 2 years	6
1 to 2 years	3
Less than 1 year	18
Dead	5
Total	32

Five patients died three to thirty-four months following operation. One (J. B.), aged 35 years, had stage III carcinoma which was radiation resistant. Operation was considered palliative at the time be-

cause of profuse discharge and bleeding. The nodes were normal, but the patient died of extensive local recurrence after a year of comfort. The second death (A. G., aged 53 years) represented an early error in procedure. Although the uterus was movable and easily removed, large nodes were palpable along the aorta. This has led to more careful exploration prior to any prolonged surgical procedure. The patient survived only three months. The third patient, (E. W.), aged 44 years, had stage I-II cancer, a movable uterus and no nodes with metastasis at operation. Nine months later bony metastasis was demonstrable in the pelvic girdle. The patient survived almost eighteen months. It is presumed that this extension occurred prior to operation. In case 4 (C. S., aged 53 years) the cervical stump was believed not to be malignant. The patient had had conization of the cervix one year before and the external os was almost completely stenotic. Simple vaginal removal of the stump was performed; when grade III squamous cell carcinoma was found at section, subsequent pelvic lymphadenectomy was performed; multiple metastatic nodes were encountered. Roentgen therapy was given to tolerance, but extensive local and distant metastases developed and the patient died thirteen months after her original admission.

The fifth death (J. G., aged 33 years) occurred in the first patient to be operated on in the series. This patient had a stage I, grade III carcinoma of the cervix, which responded well to intracavitary radium (5000 mg. hr.) so pelvic irradiation was omitted. A Wertheim hysterectomy and pelvic gland dissection were performed, but recurrence in the vaginal vault was noted after an interval of two years and the patient died ten months later. Probably the excision was not sufficiently wide in this case.

DISCUSSION

The role of surgery in the treatment of carcinoma of the cervix is, of course, subject to evaluation after a period of years has elapsed. However, the improvement in surgical technic and the protection afforded the patient in modern surgical clinics has lowered the operative mortality rate to such an extent that the procedure need no longer be abhorred. Recent reports indicate that the hospital mortality rate does not exceed 2 per cent,[1, 2, 9, 10, 12] although the extent of the procedure is such that complications, such as urinary fistulas, may occur. The improvement in surgical methods justifies this approach if it can exceed the salvage rates of irradiation. That remains to be proved, since no series is old enough for comparable statistical study.

Critics of the treatment of cervical cancer by radical surgery maintain that cases must be selected, the operator must be especially trained and radiation therapy is entirely adequate. It has been our policy to select for surgical treatment all cases in which the uterus is movable and no major contraindications to operation exist. We do not exclude obese women; on the contrary, we believe that they are more suitable for surgical treatment than for irradiation alone. As yet, we have not regretted this decision. That an experienced surgeon is necessary needs no support. This type of operation should never be performed by the occasional operator or by the self-styled specialist. Too, it is preferably done in specific centers where surgical training and proficiency are abundant and where a sufficient number of patients can be treated and followed. That irradiation is entirely adequate is not without question. Whereas such clinics as the Radium Hemmet in Stockholm report 80 per cent "five year cures" in stage I cases, other reported series vary downwards to 55 to 70 per cent.[7] Not all therapeutists, whether radiologic or gynecologic, can approach the leaders in the field, and all will admit a 20 per cent rate of failure. It is this group to which the swing toward surgical extirpation is directed.

The combination of irradiation and surgical treatment has not yet been fully exploited. The results reported by Ferris[6] and Thomas and coworkers[10] indicate that such a combination may be an effective means of increasing the salvage in carcinoma of the cervix. Most reports are still premature for assessing comparative values. However, in

the treatment of carcinoma of the cervix all possible means of eradication of the disease, whether by irradiation or by chemical or surgical means, should be employed if conditions permit. It is our opinion that radiation should precede surgical therapy. Sufficient cases have been reported to indicate that irradiation will not increase the hazard of surgical treatment, although its performance is rendered somewhat more difficult.

The role of surgery in later stages of carcinoma of the cervix, as exemplified by Brunschwig and collaborators, must await further study. It seems likely that such extensive procedures will offer a few patients a ray of hope denied by irradiation alone.

SUMMARY AND CONCLUSIONS

Twenty-eight patients with carcinoma of the cervix in stages I or II and 4 patients with carcinoma of the cervical stump were subjected to radical hysterectomy, parametrial excision and pelvic lymphadenectomy. All had preoperative irradiation except 1 of the latter group. There were no hospital deaths and the morbidity rate was 53 per cent, chiefly due to urinary complications. Five patients have died since operation. The remainder are alive and without evidence of recurrence for periods varying from three months to two and a half years.

Improvement in salvage rates in carcinoma of the cervix may be aided by a combination of radical surgical excision and adequate irradiation. Evaluation of such a combination must await the elapse of time and further careful study.

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THE CHARITY HOSPITAL CHEST X-RAY UNIT

VALUE OF ROUTINE PHOTORADIOGRAPHY

SYDNEY JACOBS, M. D.*

NEW ORLEANS

Almost every practising physician in Louisiana, has at some time or other received a report on the miniature chest film of one of his patients. In the hope that his interpretation of the report may be easier, the following exposition of the chest x-ray unit at the Charity Hospital is presented. Certainly, if the practicing physician understands the sequence of events leading to this report, he can translate the results to his patient and render better medical service.

PURPOSE OF PHOTORADIOGRAPHY

A photoradiographic unit[1] operates chiefly to detect early unsuspected cases of tuberculosis. A secondary, but by no means unimportant, consideration is that of detecting other diseases of the chest (cardiac, vascular, nontuberculous pulmonary) which may not yet be apparent. It is a truism that tuberculosis may exist for as long as two years in a person not ill enough to seek medical advice. Certain it is that many months before physical signs and symptoms are sufficiently characteristic to justify the suspicion of tuberculosis, an abnormal area on the roentgenogram will point to the presence of tuberculosis. While the stethoscope will give evidence of far advanced

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disease, it is by no means so accurate as is the x-ray film in portraying smaller lesions. Because of this, the adage "tuberculosis should be seen and not heard" was formulated some years back.

Miniature chest films are not definitive in themselves and very rarely warrant an unqualified diagnosis of pulmonary tuberculosis. The physician interpreting a miniature chest film is merely trying to estimate what he would see if he were looking at a large x-ray film. The miniature film is almost as accurate as the large 14 by 17 film in detecting small lesions of pulmonary tuberculosis. While the studies of Yerulshalmy[2] may have raised some doubt in the minds of some observers, it is also true that many of the statements made for small films could be made equally well for large films. Large scale studies, comparing 14 by 17 films with various types of miniature films, have shown that the greatest source of error lies in the observer himself, not in the instruments used.

THE CHARITY HOSPITAL CHEST X-RAY UNIT

In 1945, the Louisiana State Board of Health installed a miniature x-ray unit close to the admitting department of the Charity Hospital of Louisiana at New Orleans. The original 35 mm. unit was replaced in 1946 by a 70 mm. unit (which is probably the most popular type used throughout the United States). Since January 2, 1946, approximately 230,000 miniature films have been taken by this stationary unit, constituting perhaps the largest series taken in general hospitals of this country. It should be understood that this unit is independent of the usual services conducted by the hospital x-ray department and is dedicated solely to case finding on routine hospital admissions. Consequently, it is not under the supervision of the hospital itself but acts entirely as a function of the Louisiana State Department of Health. All administrative control is vested in the Department of Health and the hospital merely furnishes space for the physical facilities. Personnel employed in this department are under the jurisdiction of the Louisiana State Department of Health. Only chest films are made; no attempt is made to x-ray any other part of the body and no diagnostic facilities other than those of the x-ray are offered. After the x-ray, all persons who need further measures are referred to appropriate places.

Every patient who comes to the hospital out-patient department, to the accident room or to the admission division is sent to the chest x-ray unit for a miniature film unless he is sick enough to be admitted to the ward for emergency measures. In addition, some patients are sent directly by outside private physicians who receive reports and adopt all follow-up measures themselves. All films are interpreted and reported within forty-eight hours; to the record library for clinic patients, to the wards for patients already admitted or to private physicians in the instances of those who have designated a family physician. This last category is usually for those who come to the hospital for emergency measures, and subsequently return to the care of a private physician. All films suggestive of pulmonary tuberculosis or of other pathology significant enough to justify clinical investigation are at once reported to the Louisiana State Health Department. Suspects are notified by letter to report for further examination; the New Orleans Department of Tuberculosis Control is responsible for the follow-up of those suspects who live in the Parish of Orleans and the appropriate parish health authorities for those in other parishes. The chest x-ray unit assumes no responsibility for these follow-up studies once such a report has been made. It is intended for "screening" and not for definitive diagnosis or determination of the proper type of therapy which must be conducted by clinicians.

When a patient enters the chest x-ray unit he is at once sent to an admitting clerk who obtains and types the necessary information. He is then informed to remove outer garments and all metallic objects large enough to cast a shadow or otherwise to obscure the x-ray. Fortunately, it is seldom necessary to ask patients to undress for examination. Eliminating the four dressing rooms (white female, white male, colored female, colored male) formerly

used, markedly speeds up the process. Astonishing as it may seem, ordinary garments do not impede proper interpretation of the x-ray film unless containing bulky or metal objects such as religious medals, fountain pens, jewelry, or unless made of highly decorative, leaded or beaded material. This is a mass procedure and time is a great factor; the ability to examine large numbers of persons in a small amount of time is one of the great virtues of this procedure. In winter, when patients wear overcoats and sweaters, the rapidity of examinations is lessened somewhat; ordinarily, the examination takes about one minute per patient. It is possible during the peak time to examine at the rate of 100 to 150 per hour, but this is not advised. Occasionally extremely obese patients are obliged to strip to the waist for a large 14 by 17 film. Most male subjects merely remove their clothing down to the waist; whereas female subjects are taken into a dressing room and are allowed to wear a paper cape. We do not take any films of children under the age of 6 months because the machine is not sufficiently sensitive for this purpose; children between the ages of six months and four years are examined by 14 by 17 films.

EQUIPMENT

The equipment used is standard throughout the country. It consists essentially of a transformer system, an x-ray tube and stand, a photofluorograph, a fluoroscent screen, a camera, a stationary grid, a cassette holder for 14 by 17 inch films, protective screens, film processing equipment, a film viewer, and a phototimer. The transformer is a full wave rectifier system with 200 milliampere operating capacity at 100 kilivolts. The x-ray tubes have rotating anodes in order to get 40 miliamperes seconds at a peak KVP 200 miliamperes. The photofluorograph (which is essentially a light proof pyramidal hood 30 inches long at the divergent end of which is the fluoroscent screen and at the convergent end of which is a camera) is the kind which is used throughout the country. The fluoroscent screen wafer at the convergent end consists of a focused stationary grid, especially designed for photofluorography Patterson "P" (green yellow) screen, and lead glass. Usually we use blue sensitive film in rolls 100 feet long accommodating about 460 exposures. The camera is the Ektor type 1.5 automatic, the focal length is approximately 4⅜ inches. Each element is fluoride coated to reduce internal light reflection and thereby to increase light transmission and effective light speed. The casette holder is arranged so that it can take a 14 by 17 film at a target distance of 60 inches, the change-over from 70 mm. film taking only a few seconds. While this does allow for some distortion of the cardiac shadow this is not great. Protective screens are used throughout the unit in order to prevent scattered irradiation or stray irradiation through the body of the subject being examined. Frequent blood counts are done on all personnel and an observation over the past four years has shown that all personnel working in the unit are quite well protected against the dangers of irradiation. The film processing equipment consists of a tank and a spiral roll semiautomatically processing 100 feet of film in fifty minutes. The film viewer is the General Electric Fluorvue in which the image of the film diagonally subtends with the reader's eye at an angle of 30 degrees, to make for better comfort in reading. The use of the Morgan-Hodges phototimer which is adjustable and may be used either for the 70 mm. or the 14 by 17 film has materially expedited all examinations by eliminating guesswork on exposure time.

INTERPRETATION

Each film is interpreted categorically as: tuberculosis definite, tuberculosis suspected, other pathology, unsatisfactory for diagnosis, or negative. A negative film is one in which there is either no evidence of any disease within the thorax or else evidence of minor conditions not materially affecting the health of the patient; for example, congenital rib anomalies. Whenever there is the slightest suspicion that one of these conditions may be of clinical significance it is reported to the physician who must then evaluate it. An unsatisfactory film is one which is regarded as being unsuitable for diagnosis. The incidence of

unsatisfactory films is probably no greater than that which occurs in the usual hospital x-ray department taking large 14 by 17 films. When a film is reported as unsatisfactory the subject is recalled for another examination. Under other pathology are included all diseases of the heart, aorta, and lungs not regarded as tuberculosis. No definitive diagnosis is offered; the categorical statement "cardiac enlargement" merely indicated that the subject is now a patient and should be examined by a physician who will make his diagnosis by the appropriate measures. Not infrequently nontuberculous lesions of the lungs such as pneumonia or carcinoma are detected by this examination. Under tuberculosis suspect are included those lesions of the lungs which conceivably could be due to pulmonary tuberculosis. Any infiltrate, any area of fibrosis, any area of pleuritis especially if it involves the upper half of the lungs, justifies the suspicion of tuberculosis. It is regarded as definite for tuberculosis only when at the upper third of one or both lungs there are large cavities associated with marked fibrosis, pleuritis, and other evidences of destruction of the lungs which one sees only in pulmonary tuberculosis.

The convenience of this procedure is fascinating. Obviously one good way to find tuberculosis is to x-ray all persons who come for medical attention. It is equally obvious that in order to take 400 to 800 chest x-ray films in one day (the usual volume of work at the chest x-ray unit), would involve a marked increase of the x-ray staff of any hospital. It is feasible and economical[2] to take miniature films in this fashion since a small film can be taken at a much lower cost than a large film; the actual cost of a miniature film being about one-twentieth that of a large film.

CLINICAL SIGNIFICANCE OF PHOTORADIOGRAPHY

The value to Charity Hospital and to the community of this type of case finding cannot be underestimated. As the accompanying film reproductions indicate, many persons are admitted to this hospital for conditions in which tuberculosis is not suspected. Of the 219,860 films taken between January 2, 1946 and January 3, 1950, 8,145 or 0.379 per cent were interpreted as justifying the suspicion of clinically significant tuberculous and 11,088 or 0.5 per cent were regarded as indicating serious nontuberculous disease. Not infrequently, a person who comes to the hospital for a trivial ailment finds that the unsupected tuberculosis is many times worse than his original complaint. (See Figures 1, 2, 3) The protection to the hospital is also of great value. Detecting tuberculosis at a very early time in these patients (usually within forty-eight to seventy-two hours of the time they first appeared in the hospital) means that these patients will be transferred at once to an isolation unit. In a negative sense it also enormously increases the safety factor and the morale of those present in the hospital since it indicates that those found not to have evidences of pulmonary tuberculosis may be regarded as safe. Of course, one has to combat the tendency to think that a negative x-ray film means immunity to tuberculosis. Too many people get a false sense of security and must be reminded that this indicates only that no evidence of active tuberculosis was detected at the time of the examination. It is equally obvious to physi-

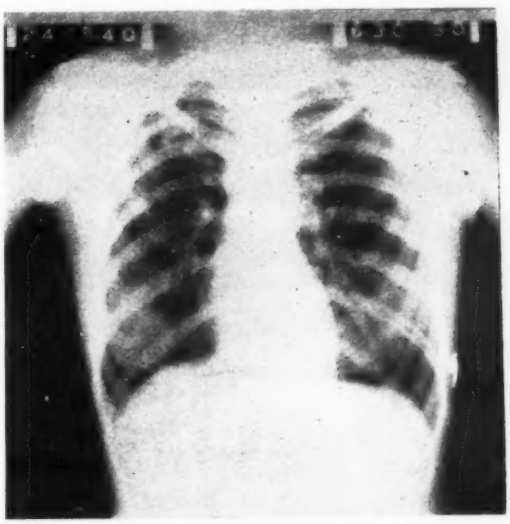

Figure 1. This patient had been admitted for thyroidectomy and again for hysterectomy within the year preceding the admission at which this photoreontgenogram was taken.

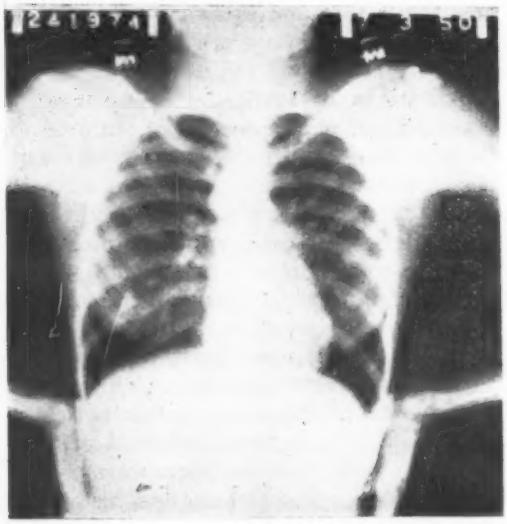

Figure 2. Because of a minor gastrointestinal complaint, she came to the out-patient department of the hospital.

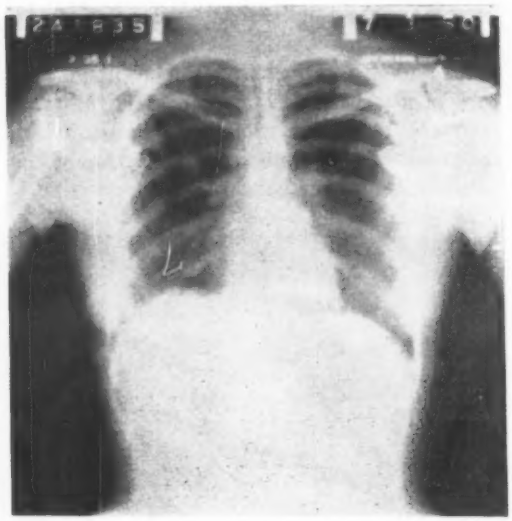

Figure 3. This patient reported to the hospital for treatment of a chronic (nontuberculous) ear infection.

cians, although not so obvious to patients themselves, that this in no way guarantees him protection against developing tuberculosis in the future. For this reason every person coming to the admit room or to the clinic is sent to the chest x-ray unit for an x-ray film every six months. Only by this follow-up system are we able to continuously protect persons and to detect pulmonary tuberculosis before it has made significant advances.

I am grateful to Miss Angela White, Chief Technician of the chest x-ray unit for assistance in compiling statistical and technical data.

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THE ALLERGIC BASIS OF CERTAIN OTORHINOLARYNGOLOGIC COMPLAINTS*

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NEW ORLEANS

It is unfortunate that in both medical and lay circles the terms allergy and allergic have lost a good deal of their original pathologic connotation because they have been used so loosely and sometimes, indeed, so scornfully. To the physician, however, who is called upon to treat allergic diseases and the patients who present allergic manifestations the terms have retained all of their original significance.

It is the exceptional physician who does not come into contact with allergic diseases. Surveys have shown that about half the population of the United States suffers from some demonstrable type of allergy, while Vaughan, an experienced allergist not given to unconsidered statements, went even further: In his opinion the individual does not exist who is not allergic to something. It is not surprising, therefore, that general practitioners are daily called upon in the course of their practice to treat allergic patients, nor is it surprising that otolaryngologists should encounter them with almost equal frequency, even though they have been regrettably slow to realize this

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situation. Numerous symptoms referable to the ear, nose, throat, and respiratory tract are of allergic origin. They can be diagnosed as allergic with a minimum of difficulty. When once they have been diagnosed, they can be treated definitively and satisfactorily. Finally, their management by the proper diagnostic and therapeutic routine will materially reduce the number of patients who go from physician to physician with perpetual colds, postnasal discharges, and a myriad of other complaints which are likely to be treated empirically because their allergic origin is not realized.

DIAGNOSTIC CONSIDERATIONS

History—Discussions of the diagnosis of allergic diseases usually begin with the statement that a complete history is extremely important. Though it is probably the most important single feature of the diagnostic routine, it is also the feature most likely to be neglected. A complete history in any form of allergy is ordinarily a tedious, time-consuming affair, which is why it is so seldom taken and why, in turn, the diagnosis of allergy is so often overlooked or the exact form of allergy present so often remains undetected. One of the chief purposes of this presentation is to outline certain short-cuts by which an adequate history can be obtained without the expenditure of the time and effort which a busy practitioner simply cannot devote to individual office patients without doing an injustice to his patients.

The primary consideration in the diagnosis of allergy is constant awareness by the physician that allergic diseases are extremely frequent and that, if only by the law of averages, the patient under examination at the particular moment may suffer from some allergic condition. In other words, as Stokes first said about syphilis, the secret of correct diagnosis is a high index of suspicion. On the basis of frequency alone, it is perfectly fair to say that a chronic nasal disease should be considered of allergic origin until it has been proved not to be: Reliable statistics have shown that an underlying nasal allergy is responsible for at least 70 per cent of all cases of chronic sinusitis and for perhaps 90 per cent of all chronic nasal infections. Headache is very often the result of an allergic turgescence of the nasal mucosa. Impairment of hearing, pain in and about the ears, "stopped-up" ears, the postnasal discharge formerly described as chronic catarrh, these and related symptoms and signs are so often the result of allergy that the physician who bears the disease in mind, when he encounters them, wastes no time in palliative treatment. Instead, he cuts to the heart of the matter with certain questions, the replies to which will tell him almost at once whether he is following the correct lead in suspecting that allergy is the basis of the patient's difficulties or whether he should turn his attention to other possibilities.

First, he will inquire whether the complaint is chronic and of long standing. If the reply is yes, he will inquire whether the symptoms are always of the same degree of intensity or whether there are seasonal flare-ups and exacerbations. If the reply, again, is yes, he will ask the questions about the individual symptoms which will be mentioned later, in full confidence that he is on the road to a prompt and correct diagnosis. It is usually as simple as that.

Physical Examination—Although the information secured by physical examination of an allergic patient is inconclusive when it stands alone, it is still of considerable value. In the presence of a superimposed infection, the exudate visible in the ears, nose and throat of an allergic patient is, of course, purulent or mucopurulent. In the absence of infection it is characteristically mucoid. Sometimes the mucosa of the nose and throat is normal in appearance, but very often it is typically pale. The finding of nasal polyps, especially if they are bilateral, is almost pathognomonic, since most nasal polyps are the result of uncontrolled untreated nasal allergy. Another important finding is lymphoid hyperplasia of the posterior pharnygeal wall, even if the typical pallor is absent. Lymphoid hyperplasia in this area is almost always the result of constant irritation from a postnasal discharge. It may take the form of enlarged lateral pharyngeal bands or of discrete no-

dules of hyperplastic tissue. Often, as the examination proceeds, a typical mucoid discharge may be observed dripping from the naso-pharynx.

Cytologic Examination—The quickest as well as almost indisputable evidence of the allergic origin of ear, nose, and throat symptoms is the demonstration of eosinophiles in the discharge. Cytologic examination is often spoken of as a difficult procedure. It is not. As we practice it in our office, it takes no more than a minute or two to collect the specimen and another couple of minutes to stain and examine it.

The specimen may be obtained in several ways. Most often we hand the patient a piece of thin wax paper (the kind used in bakeries to handle rolls and pastries) and ask him to blow his nose into it. If a satisfactory specimen is not secured in this manner, a cotton-tipped applicator is passed up into the nasopharynx. The tip is bent almost to a right angle, and any mucoid material which may be present adheres to it as it is passed upward and inward. If neither of these methods succeeds, the patient is asked to save some of the material expectorated during an exacerbation of symptoms. It should be noted that none of these methods requires any special training or facility. In other words, anybody at all can use them.

The examination of the specimen is equally simple. Although both the Wright and Giemsa stains give equally good results, we use Hansel's stain exclusively because it permits faster preparation than either of the others and still furnishes excellent contrast. The technic is as follows:

A portion of the mucoid exudate is teased out from the specimen and is spread over a glass slide. It is essential that the material examined be mucoid. The watery portion of the specimen does not answer the purpose. The demonstration of eosinophiles makes the diagnosis, and eosinophiles are present only in the mucoid portion of the specimen. After the material is fixed and dried by flaming, Hansel's stain is applied for thirty seconds. Distilled water is added to the stain for another thirty seconds. The mixture of stain and distilled water is then poured off, the slide is washed with distilled water, the smear is decolorized with methyl alcohol and, finally, is passed through the flame again. The slide is then ready for examination.

This is a simple method, expeditious from every standpoint. It requires a minimum of material. The setup occupies a space not more than 2 by 3 feet. The whole procedure takes not more than three or four minutes. Finally, it takes only a short time to train an assistant to prepare the slides for examination.

If the patient's symptoms are of allergic origin, examination of the specimen will reveal one of two possible pictures:

1. Only eosinophiles will be found, in varying numbers, and with a strong tendency to appear in small clumps. This the typical picture of uncomplicated allergy.

2. Eosinophiles and neutrophiles will be found in varying proportions though, generally speaking, there will be a balance between the two types of cells: As neutrophiles increase, eosinophiles decrease, and vice versa. This is the typical picture of allergy with superimposed infection. Even if the infection is severe and neutrophiles predominate, eosinophiles will be found if the symptoms are of allergic origin.

If examination of the specimen reveals only neutrophiles, the possibility of an allergic origin may be dismissed. The presence of neutrophiles without eosinophiles indicates an uncomplicated, nonallergic type of disease.

While the chief value of a cytologic examination is to establish or exclude the diagnosis of allergy, it supplies other useful information. It also establishes or excludes associated infection. Even slight infections, which could not be diagnosed by physical examination or detected by the naked eye are thus revealed. Whatever treatment is instituted will, therefore, be on a sounder basis. Also, when the diagnosis of allergy is already confirmed, cytologic examination will demonstrate whether exacerbations of symptoms are caused by exacerbations of the underlying allergic disease or by intercurrent infection. Physicians who once adopt this simple diagnostic tool will won-

der how they ever managed without it. It greatly increases the accuracy of diagnosis, it puts treatment upon a more rational basis, and it multiplies the number of properly treated, and therefore satisfied, patients.

Skin Testing—The otolaryngologist will find no great need for skin tests, though there are three things he should remember if he uses them for diagnostic purposes:

1. A patient may be suffering from allergy and still have negative skin tests.

2. The accuracy of skin testing varies and is never 100 per cent. Pollen testing is about 98 per cent accurate and testing with perennial inhalants about 80 per cent accurate, but food tests are not more than 30 per cent accurate. Food testing, moreover, is not a simple matter. Rinkle has estimated that in every instance of perennial allergic rhinitis there are about five complicating food sensitivies, while in hay fever there are about seven and in asthma about ten. Some foods, moreover, give rise to trouble only during certain pollen seasons, while, fortunately, it often happens that when the inhalant factor is controlled, food sensitivities cease to cause trouble or cause much less trouble.

3. A coexisting food allergy is often the explanation of hay fever which, in spite of treatment, lasts beyond the pollen season. The same is true of molds.

OTORHINOLARYNGOLOGIC SYMPTOMS OF ALLERGIC ORIGIN

Colds—Of all the nasal conditions most likely to be allergic in origin, the recurring "cold" is the commonest. The patient's story is usually typical. He catches "cold" easily or, as he puts it, he lives with a "cold." He is scarcely over one before he has another. His nose is always stopped up. He obtains a good deal of mucus when he blows it, not pus, simple clear, thick mucus. He sneezes in the morning and coughs when he goes to bed. Often in the morning he raises a good deal of phlegm, which may gag him, and even make him vomit.

The patient may call this combination of complaints a "cold" but the experienced physician suspects, usually with good reason, that the symptoms are the result of allergic rhinitis. When the patient is questioned further, it will be found that his symptoms are present all the year round; that the constitutional reaction is always slight; and that, whatever disease he may have, it is not contagious, since his family and associates never develop it in spite of his constant coughing and sneezing.

The perennial character of this type of complaint points to some food, or to one or more of the perennial inhalants, as the most likely offending allergens. Dusts and molds are frequently responsible. When the secretions are examined, eosinophiles are practically always found.

Only treatment directed toward the allergy will relieve the patient with these complaints. Tonsillectomy will not cure it. The physician will find to his chagrin, and the patient to his annoyance, that symptoms have been interrupted only for the duration of the anesthetic. Penicillin by parenteral or aerosol administration, and sulfa drugs, even in large quantities, are equally useless except to clear up any superimposed infection. They will have no effect at all on the underlying allergy.

Nasal Blockage—When, as frequently happens, a patient enters the physician's office with a self-made diagnosis of "sinus trouble," the physician would do well to question him at once with the idea of allergy in mind. Even the most cursory inquiry is likely to reveal that the chief complaint is nasal blockage. It may range from a simple feeling of stuffiness to complete occlusion. It may be present all through the day or appear only at night, when the patient goes to bed. It may be continuous or intermittent. It may be bilateral, though more often only one side is blocked at a time.

It is inevitable that nasal blockage should be accompanied by a postnasal discharge, since the first results of occlusion of the nasal passages are increased mucous secretion and decreased evaporation. The patient who complains of nasal discharge almost always complains of a postnasal discarge also; if he does not complain of it, it is frequently found in the course of the examination. The findings on cytologic examination depend upon whether or not a second

ary infection is present. If it is, eosinophiles and neutrophiles will be present in varying proportions. If it is not, only eosinophiles will be found.

The perennial inhalants are usually responsible for nasal blockage, though foods may also play some part. One explanation of the exacerbations of which some patients complain of at night, and of the symptoms which occur only at night, is the massive exposure then experienced to house dust, feathers, and mattress dust. Mattress dust, incidentally, is quite different from ordinary house dust because of the large amount of cotton and wool which the ordinary mattress contains.

Nasal blockage is ordinarily merely one symptom of allergic rhinitis. It bears no relationship to sinus trouble in the ordinary understanding of the term. There is no inflammation or infection of the sinuses. The usual treatments for sinus disease, therefore, do no good. Submucous resection does not relieve the symptoms. Antral washes merely produce a clear return of whatever solution is instilled. Penicillin and sulfa therapy are useless unless there is a superimposed infection. As to nose drops, their prolonged use is one of the most regrettable features of a missed diagnosis in this type of allergy: Some patients have used them over such long periods that the vasomotor function of the nasal mucosa has been destroyed and a rhinitis medicamentosa must be treated as well as allergic rhinitis.

POSTNASAL DISCHARGE

Proetz has called postnasal discharge the "current American nightmare," and it is not a bad description. Literally millions of Americans are affected with it. In our own office we frequently see as many as 10 or 15 patients a day complaining of it or of its effects. In addition to the physical annoyance which it causes, many patients feel that it means that they have tuberculosis or cancer, and the psychic effects may be extremely troublesome to overcome.

To discuss all of the causes of a postnasal discharge is not within the province of such a paper as this. All that need be said is that it is so often of allergic origin that an allergic origin should always be suspected, and that the diagnosis can be established at once by the finding of eosinophiles in a nasal smear.

A postnasal discharge, as just pointed out, is often associated with nasal blockage. It may be present all day, or be worse early in the morning, when the patient arises, or at night, when he goes to bed. These exacerbations are usually to be explained by exposure to house dust, feathers, or mattress dust. Dander from animals which sleep in the bedroom may also be responsible.

The patient usually consults the physician because he is aware of the postnasal discharge. Sometimes, however, he consults him because of its results, and his first knowledge of its existence comes when the physician finds it on the pharyngeal wall.

The most frequent symptom is profuse expectoration or clearing of the nasopharynx and throat early in the morning, because of the accumulation of secretions during the night. If the gag reflexes are sensitive, there may also be gagging, coughing, nausea, and even vomiting, as he endeavors to rid himself of them. The next most frequent result of a postnasal discharge is frequent sore throat. Often the sore throat is present only in the morning, wearing off as the day progresses. The usual signs of infection and progression are lacking. On examination, the redness characteristic of a sore throat is not found, but there is characteristic hyperplasia of the lateral pharyngeal bands on one or both sides. Many a tonsillectomy has been performed unnecessarily because of these findings, which are readily explained by the overnight accumulation of secretions in the nasopharnyx.

Often the patient with a postnasal discharge complains of pain over the lateral aspects of the neck. It is caused by irritation of the lymphoid tissue in the pharyngeal wall and it can be reproduced accurately by stimulation of the irritated follicles.

Farther down the respiratory tract the postnasal discharge has its effect upon the superior laryngeal nerve, the so-called watchdog of the larynx. Stimulation of this nerve produces one of two possible results.

The first is a chronic cough. The second is hoarseness, which is brought about by the traumatism to the larynx caused by the patient's constant attempts to clear his throat. If the trauma is long continued, vocal nodules may be formed.

HEADACHE

Most headaches which arise on an allergic basis can be explained by the irritation of pressure points somewhere in the nose. In such cases, in addition to the allergenic basis factor, the patient presents a deviated nasal septum or some abnormal positioning of the turbinates, which serves as a pressure point and causes a headache whenever the mucosa is the site of allergic swelling. When the mucosa is not swollen, there are no pressure points, and therefore, there is no headache.

The pain of an allergic headache is usually aching in character and is usually located anterior to the ears. If the vasomotor system is labile, and if the headache lasts long enough, the walls of the blood vessels become edematous and the pain once again becomes aching in character. If pain anterior to the ears has been present for any length of time, cervical and occipital pain is also likely to appear.

The patient with allergic headaches almost invariably states that they are associated with nasal blockage or stuffiness, which is usually unilateral. He also volunteers the information that his eyes itch and water. These symptoms are almost pathognomonic. Another valuable clue is the special intensity of the headaches during certain periods of the year. Because allergic headaches are often accompanied by nausea and vomiting, and are often unilateral, they are sometimes diagnosed as migraine and are treated as if they were, of course without relief.

If the patient is seen when the headache is in the primary aching stage, it can usually be relieved, instantly and dramatically, by thorough nasal shrinkage; relief by this means is diagnostic. If he is not seen until the throbbing stage has ensued, simply nasal shrinkage is not enough. It is then necessary to use a vasoconstrictor such as dihydroergotamine, which has almost a selective action on the branches of the external carotid.

The patient who suffers from allergic headaches must have a careful local examination. This is one type of allergy in which adequate submucous resection, or even simple infraction of the turbinates, is likely to be beneficial, not, of course, because these procedures affect the underlying allergy in any way whatsoever but because they eliminate the pressure points which are responsible for the headaches.

CROUP

Asthma and hay fever are generally realized to be allergic in origin and are treated on that basis. It is not very often realized that croup can frequently be explained by allergy combined with a rather immature development of the larynx. In young children the laryngeal cartilage has not yet become rigid and the effect of an allergic attack may be to narrow the airway. The fact that croup occurs chiefly at night implicates some substance in the bedroom as the allergenic factor. We speak with considerable confidence on the allergic factor in croup, for in a number of cases we have been able to demonstrate eosinophiles in the nasal secretion and have prevented additional attacks by proper therapeutic measures.

THERAPY

Drug Therapy—The development of the anihistaminic drugs has been the most important of all recent advances in the management of allergy. The physician now has at his disposal an extremely effective weapon. Patients whose symptoms are present only for short periods of time usually respond well to these preparations, though they must be used with caution. Serious reactions, and at least one death, have been reported following their use. The greatest care is necessary when they are used in hypertensive subjects, because of their epinephrine-sparing action: When epinephrine is formed in the body, histamine is produced as an antagonist, but when histamine is destroyed by the use of an antihistaminic drug, the action of epine-

phrine is uninhibited and a dangerous reaction may result.

The antihistaminic preparations have the additional advantage of a sedative effect and thus influence the psychosomatic factors which are so often present in allergic diseases. If the patient complains of drowsiness, the dose can be cut in half, or a mild stimulant may be added to the regimen, or another preparation, which has the same therapeutic effects but less marked sedative effects, may be substituted. Since sympathomimetic drugs, such as adrenalin and ephedrine, act by vasoconstriction, they can be used as necessary with antihistamic drugs without interfering with their action.

The best results achieved with antihistaminic drugs are observed in seasonal hay fever. Less marked, though still good, results are secured in perennial nasal allergy manifested by a chronic stuffy nose with a postnasal discharge. The poorest results are obtained with asthma.

The management of bronchial asthma requires special consideration. Adrenalin is still the sheet anchor in acute attacks, though its side effects are often extremely unpleasant and many asthmatics, with good reason, object to taking it. Its continued use may lead to epinephrine fastness and there will no longer be a favorable response to its administration. The use of oxygen inhalations supplemented by the intravenous administration of glucose and aminophylline frequently corrects the refractory state and restores the therapeutic effectiveness of the drug.

The administration of aminophylline by the aerosol technic is a new method which has already proved its effectiveness. The dosage is one 10 cc ampoule. If relief is not obtained within fifteen minutes after treatment is completed, a second ampoule is administered. In most instances this is not necessary, relief occurring a few minutes after exposure. When aminophylline is used by the aerosol method, syncope, nausea, vomiting, and other unpleasant side effects occur much less frequently than when it is administered intravenously. Another of the newer bronchodilators, isuprel, can also be used effectively by the aerosol method. The use of adrenalin by nebulization is well established.

If secondary infection is superimposed upon the allergic disease, penicillin by the aerosol technic usually clears it up promptly. It is best given after the full effect of aminophylline has been obtained, because the increase in vital capacity which the latter has produced permits a fuller inhalation of penicillin and enhances its effectiveness. Caution must be observed in certain patients who are mold sensitive.

We have found that another new preparation, nethaprin, has an excellent effect upon the cough present in both asthma and allergic bronchitis. This preparation contains (1) nethamine, a synthetic form of ephedrine, which acts as a vasoconstrictor, (2) butaphylline, a theophylline derivative, which acts as a bronchodilator, and (3) decapryn, which is an antihistaminic drug.

The use of one of the iodides to thin secretions is still one of the most valuable aids we have in the treatment of bronchial asthma, and it is unlikely that their use will be superseded in the forseeable future.

Hyposensitization—We believe hyposensitization to be the most important and most useful part of the therapy of allergic otolaryngologic conditions. We use the term hyposensitization in preference to desensitization because of our firm belief that the allergic patient, like the diabetic patient, cannot be cured. His disease is merely controlled.

Hyposensitization can be accomplished in two ways:

1. The dosage is progressively built up from a small initial dose to the highest dose which the patient can tolerate. The relief achieved by this method apparently results from the creation of a state of refractoriness.

2. The method of hyposensitization which we prefer to use is the high-dilution, optimum-maintenance regimen advocated by Hansel, the objective of which is to find the optimum dose, which is not necessarily the maximum tolerable dose, for the particular patient. The initial dose depends upon the

severity of the symptoms: The more severe the symptoms, the higher the dilution of antigen. When the stage of improvement is reached, the dosage is kept at the same level but the interval between injections is lengthened. After the tenth injection the interval can usually be lengthened to three weeks. Sometimes the interval is really considerable. We have one patient under our care who now requires an injection only once every six months. In the thousands of injections we have never had a single untoward reaction, not even a sore arm. This is a point well worth emphasis. Patients who live out of town can be treated by their own physicians. We forward the necessary materials, schedules, and detailed instructions, and require the patients to report to us for check-ups only every three or four months.

In our experience even the seasonal allergies can be treated successfully by this method. It is not necessary to begin treatment before the season begins nor to continue it when it ends. Year round treatment is also not necessary. The co-seasonal plan is quite as effective, and the patient is thus saved both time and money.

Prophylaxis—In spite of the recent advances in the treatment of allergy, prophylaxis remains the best method of management. Offending substances can be eliminated from the environment by such measures as the preparation of a dust-free bedroom; the use of plastic pillows and mattress covers; the selection of nonallergenic face powders; keeping animals out the house; the removal of wooly or fuzzy playthings, which can catch and hold dust, from among the child's toys; and the elimination from the diet of any food which has been established as allergenic. This is a simple program, but it often works wonders.

SUMMARY AND CONCLUSIONS

1. The high incidence of allergies in the general population makes it reasonable to look for an allergic basis for many otolaryngologic symptoms.

2. The physician with a high index of suspicion will find that complaints such as recurring colds, nasal blockage, postnasal discharge, headaches, and even croup are frequently of allergic origin, even if infection is also present.

3. Diagnosis is simplified if the physician bears the possibility of allergy in mind and begins his history taking with certain essential questions, the replies to which will almost invariably determine whether or not he need pursue the idea of allergy further.

4. Physical examination is useful but not conclusive. Cytologic examination more certainly establishes or excludes the diagnosis. If eosinophiles are found, the condition is most likely of allergenic origin, even if a large proportion of neutrophiles indicate that secondary infection is also present.

5. The antihistaminic preparations mark the greatest recent advance in the treatment of allergy. Other new drugs are also useful, and administration by aerosol is frequently highly effective. Hyposensitization is the most important part of treatment, though it merely controls, and does not cure, the allergic disease. Prophylaxis is still an essential phase of management.

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THE DIAGNOSIS AND TREATMENT OF MACROCYTIC ANEMIA†

GRACE A. GOLDSMITH, M. D.*

NEW ORLEANS

Knowledge of the pathogenesis and therapy of macrocytic anemia has increased greatly since the isolation of folic acid in 1944[1] and of vitamin B_{12} in 1948[2]. While many problems remain unsolved, there is every indication that extensive investigation in this field will soon clarify existing complexities. Information available at present is sufficient to enable the practicing

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physician to make a reasonably accurate diagnosis and to plan adequate therapy in most instances.

The first step in the management of chronic anemia is determination of the kind of anemia exhibited by the patient and of the etiologic factors responsible for its development. Only when this information is at hand can rational therapy be outlined. Many of the difficulties encountered in the treatment of anemia arise from failure to make a proper diagnosis.

Anemias may be classified into three main groups from a morphological standpoint: (1) macrocytic, in which the erythrocytes are large and usually contain a normal concentration of hemoglobin; (2) normocytic, in which the red cells are of normal size and, in most instances, normally filled with hemoglobin and (3) microcytic in which the cells are small and contain either a normal, or, more often, a diminished concentration of hemoglobin. The etiologic factors in these three types of anemia differ greatly and the therapy of each variety differs correspondingly.

DIAGNOSIS

Determination of the type of anemia presented by the patient is relatively simple and can be carried out in the office of most practicing physicians. The necessary equipment is easily procured and the procedures indicated are not difficult. Blood should be obtained by venipuncture, using all possible precautions to avoid stasis, including releases of the tourniquet before blood is withdrawn. Five cubic centimeters of blood are placed in a small bottle containing 6 mg. of solid ammonium oxalate and 4 mg. of solid potassium oxalate as an anticoagulant. The last few drops of blood in the syringe may be used for making blood smears for study of cell morphology, reticulocyte count, and differential leukocyte count. Procedures to be carried out with the sample of venous blood are shown in Table 1. The volume of packed erythrocytes is determined with the Wintrobe hematocrit tube which should be centrifuged at 300 revolutions per minute for one half hour. Erythrocytes are counted in the usual manner in the Neubauer chamber after dilution with Hayems or other suitable solution. Hemoglobin may be estimated by dilution of blood with ammonia water and reading in a photolectric colorimeter with a 540 mu filter. Acid hematin methods may also be used and colors matched in some type of visual colorimeter. Disadvantages of the latter methods have been discussed by Wintrobe[3]. Both visual and photoelectric instruments should be calibrated by some accepted procedure such as the oxygen-capacity or the pyridine-hemochromagen method. If such calibration can not be undertaken, the instrument used should be compared with one of known accuracy.

Of the three procedures just described, the hematocrit determination is the most accurate. However, errors can occur from

TABLE 1
HEMATOLOGIC FINDINGS IN NORMAL PERSONS AND IN MACROCYTIC ANEMIA

Procedures*				Findings	
				Normal†	Macrocytic Anemia
Hematocrit Determination	Volume Packed Red Cells—%		Males	47.0 ± 7.0	Below 40.0
			Females	42.0 ± 5.0	" 37.0
Erythrocyte Count	Millions per c.mm.		Males	5.4 ± 0.8	" 4.6
			Females	4.8 ± 0.6	" 4.2
Hemoglobin Determination	Grams per 100 cc.		Males	16.0 ± 2.0	" 14.0
			Females	14.0 ± 2.0	" 12.0
Mean Corpuscular Volume	Vol. packed red cells, cc. per 1000 cc. / Red cell count, millions per c.mm.	=		87 ± 5 c. micra	Above 95 c.u.
Mean Corpuscular Hemoglobin Concentration	Hemoglobin gm. per 100 cc. X 100 / Vol. packed red cells, cc. per 100 cc.	=		34 ± 2%	Above 30%

*Obtain 5 cc. venous blood without stasis and place in bottle containing 6 mg. NH_4 Oxalate and 4 mg. K. Oxalate.
†From M. M. Wintrobe, Clinical Hematology, Lea & Febiger, Philadelphia, 1946.

improper mixing of blood or from failure to centrifuge long enough, at the proper speed, to obtain complete packing of the erythrocytes. Red cell counts are subject to errors of improper sampling, mixing, dilution, filling of the counting chamber and inherent errors in apparatus.* Determination of hemoglobin is the most fallible of the procedures due chiefly to unsatisfactory methods, inaccurate calibration of instruments and disagreement concerning standards. In spite of the difficulties just enumerated, accurate findings may be obtained with proper care and experience.

After the hemoglobin, erythrocyte count, and volume of packed red cells have been determined, the next step is estimation of the size of the red cells and their concentration of hemoglobin. The formulae for calculating mean cell volume and mean corpuscular hemoglobin are shown in Table 1. Values obtained in normal adults (both average and range)[3] and values to be expected in macrocytic anemia are also given in the table. In macrocytic anemia, the mean cell volume is usually greater than 100 cubic micra while the mean corpuscular hemoglobin concentration is normal. This is true even though the average amount of hemoglobin per red cell is high due to the large size of the cell. This latter finding makes the color index greater than one and has led to the term "hyperchromic" anemia, an expression which is actually incorrect. An elevated mean cell volume is a better criterion of macrocytic anemia than is a high color index. Examination of the stained blood smear is often of great assistance in suggesting the diagnosis of macrocytic anemia. When the anemia is severe, there is marked variation in both size and shape of the red cells and many large, oval, erythrocytes may be visualized. In addition, all of the cells appear well filled with hemoglobin. In many instances, numerous large, multilobed polymorphonuclear leukocytes will be noted.

The total leukocyte and platelet counts are usually decreased in the macroycytic anemias. If no therapy has been administered, the reticulocyte count is normal varying from 0.5 to 1.5 per cent. When facilities are available for bone marrow aspiration or biopsy, examination of the marrow will show marked hyperplasia and the presence of large numbers of megaloblasts. In some of the nutritional macrocytic anemias, normoblasts are the predominant cell in the bone marrow and on rare occasions the marrow may be hypoplastic.

*Equipment certified by the U. S. Bureau of Standards is recommended.

ETIOLOGIC FACTORS

After the diagnosis of macrocytic anemia has been established the next step in management is determination, where possible, of the etiologic factors responsible for this anemia. Table 2 lists the common clinical syndromes in which macrocytic anemia is a prominent feature. Macrocytosis may also occur, at times, in some of the hemolytic anemias and in aplastic anemia. Differentiation between the several types of macrocytic anemia is not easy. This is particularly true of pernicious anemia, sprue, and nutritional macrocytic anemia. The frequencies with which certain clinical and laboratory findings are observed in these three conditions are compared in Table 3. Even when the clinical syndrome is characteristic, the factors primarily responsible for development of the macrocytic anemia have, until recently, been largely unknown.

TABLE 2
CLINICAL SYNDROMES ASSOCIATED WITH MACROCYTIC ANEMIA

Pernicious Anemia
Carcinoma of Stomach—Following Gastrectomy
Sprue—Idiopathic Steatorrhea—Celiac Disease
Nutritional Macrocytic Anemia (Tropical and Temperate
Pellagra (occasionally)
Intestinal Stricture—Resection—Gastrocolic Fistula (rarely)
Macrocytic Anemia of Pregnancy
Liver Disease (chronic and severe)
Hypothyroidism (occasionally)
Diphyllobothrium Latum Infestation (possibly)
Megaloblastic Anemia of Infancy

Castle's theory has long been applied in explaining the pathogenesis of pernicious and related anemias. Recent investigation has led to clarification and modification of

TABLE 3
DIFFERENTIAL DIAGNOSIS OF PERNICIOUS ANEMIA, SPRUE, AND NUTRITIONAL MACROCYTIC ANEMA

Clinical and Laboratory Findings	Pernicious Anemia	Sprue	Nutritional Macrocytic Anemia
Family predisposition	+	—	—
History of poor diet	+	++	+++
Weight loss	+	+++	++
Glossitis	++	+++	+++
Diarrhea	+	+++	++
Abdominal distention	—	+++	+
Signs multiple vitamin deficiency	—	+++	++
Neurologic abnormalities*	++	+	+
Macrocytic anemia	+++	++	+++
Hypochromic anemia	—	+	+
"Deficiency pattern" of X-ray small intestine	—	++	+
Histamine achlorhydria	+++	+	+
Flat glucose tolerance test	—	++	+
Flat fat tolerance test	—	+++	?
Steatorrhea	—	+++	+
Hypocalcemia	—	+	—
Elevated serum bilirubin	+++	+	+
Low serum vitamin A	—	++	+
Prolonged prothrombin time	—	+	—

*Peripheral neuritis in all three syndromes, combined degeneration of spinal cord in pernicious anemia.

TABLE 4
THEORIES RELATED TO THE PATHOGENESIS OF MACROCYTIC ANEMIA

CASTLE'S THEORY		
Intrinsic factor (gastric juice) plus Extrinsic factor (beef muscle)	Combine to form	Erythrocyte Maturation Factor (liver)
PRESENT HYPOTHESES		
Intrinsic factor (in gastric juice and hog duodenum)	is	Enzyme (?) essential in (a) absorption vitamin B_{12} or (b) release vitamin B_{12} (or related substance) from food
Extrinsic factor (in food)	is	Vitamin B_{12} or related substance
Erythrocyte maturation factor (in liver)	is	Vitamin B_{12}
Folic Acid	is	Another essential hematopoietic factor

this concept. (Table 4). Castle postulated that the antianemic factor in liver was formed by a combination of "intrinsic" factor present in normal gastric juice and "extrinsic" factor present in beef muscle or other food. In pernicious anemia, intrinsic factor was shown to be absent from the gastric juice. Other macrocytic anemias have been considered to be due to lack of extrinsic factor in the diet, lack of both intrinsic and extrinsic factor, poor absorption, inadequate storage or improper utilization of the erythrocyte maturation factor.

Following the discovery of folic acid, it was shown that this vitamin stimulated blood regeneration in practically all forms of macrocytic anemia. However, folic acid was not effective in either the prevention or cure of spinal cord degeneration in pernicious anemia. Furthermore hematologic relapse developed in certain patients during therapy with this material. Abundant evidence indicated that folic acid was not the erythrocyte maturation factor of liver.

Recent studies with vitamin B_{12} have shown that this vitamin is apparently the antianemic principle of liver. One microgram of vitamin B_{12} appears to be the ap-

proximate equivalent in hematopoietic activity, of one unit of liver extract.[4] Vitamin B_{12} has been found effective in both the prevention and reversal of neurologic lesions in pernicious anemia. This vitamin does not stimulate hematologic regeneration when given orally, unless the dose is many times greater than that which is active parenterally. However, if vitamin B_{12} is administered orally in conjunction with normal gastric juice or other source of intrinsic factor, erythropoieses follows. This suggests that vitamin B_{12} is similar to or identical with Castle's extrinsic factor. Whether intrinsic factor facilitates absorption of vitamin B_{12} or in some way makes it available from food is unknown.

Vitamin B_{12} has recently been shown to be effective when given orally, alone, to certain patients with macrocytic anemia other than pernicious anemia. In some patients, it is effective only when combined with intrinsic factor*.[5] A therapeutic test with oral vitamin B_{12}, given alone and in combination with intrinsic factor, may be useful in differentiating various types of macrocytic anemia. If the anemia is due to an inadequate supply of extrinsic factor, vitamin B_{12} should be effective orally, while if intrinsic factor is lacking, response to oral therapy will follow only when this factor is also supplied. If an intestinal absorptive defect is present, parenteral therapy will be necessary for induction of hematologic regeneration.

In some cases of macrocytic anemia, the administration of vitamin B_{12}, even in large amounts parenterally is without effect, while the administration of folic acid is followed by prompt erythropoiesis. This finding has been reported in macrocytic anemia of pregnancy and megaloblastic anemia of infancy. In many cases of non-Addisonian macrocytic anemia, the administration of either folic acid or vitamin B_{12} will be followed by restoration of the blood count and clinical picture to normal. Whether sprue or nutritional macrocytic anemia is due primarily to deficiency of folic acid, of vitamin B_{12}, or of both factors can be determined only by further investigation. There may be additional complicating features in sprue. It should soon be possible, however, to classify macroytic anemias on an etiologic basis.

*Intrinsic factor supplied by extract of hog intestine furnished through the courtesy of the Upjohn Co.

TREATMENT

After the diagnosis of macrocytic anemia has been established and after the clinical syndrome with which it is associated has been determined, treatment should be instituted. If the diagnosis is pernicious anemia, therapy should consist of the parenteral administration of either liver extract or vitamin B_{12}. The management of pernicious anemia with liver extract has been well standardized while information concerning the use of vitamin B_{12} is accumulating rapidly. Most of the evidence to date suggests that vitamin B_{12} is approximately as effective as liver extract in pernicious anemia. A dosage schedule which should prove effective in most patients is given in Table 5.

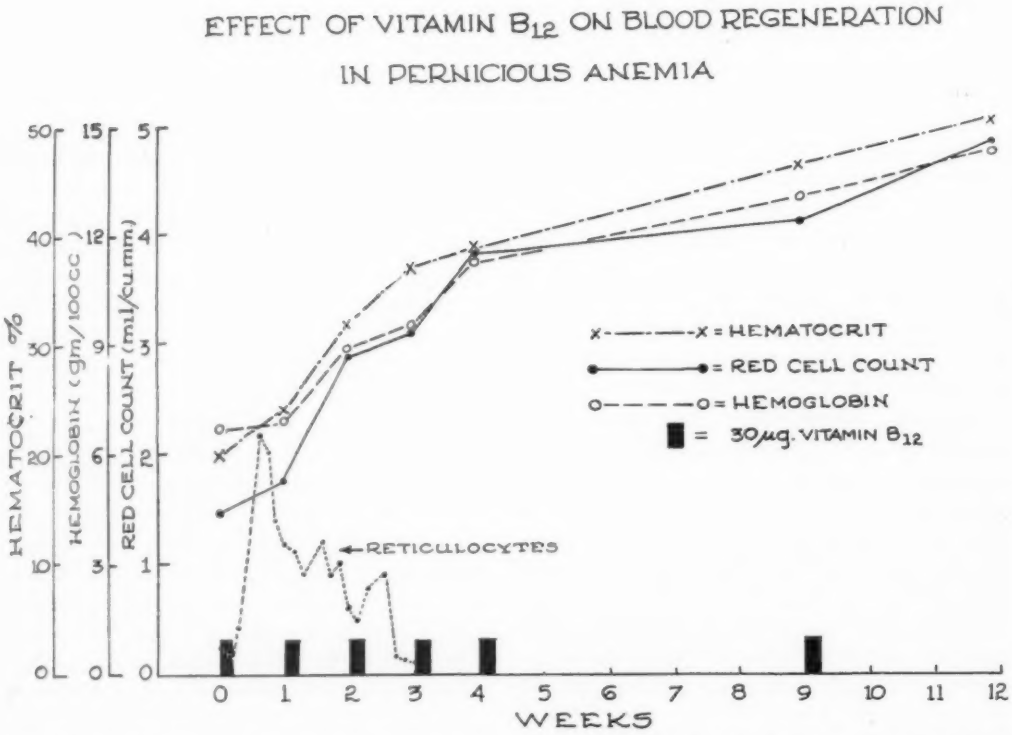
In the Nutrition Clinic at Tulane University 15 patients with pernicious anemia in relapse have been treated with vitamin B_{12}.* The characteristic hematologic response which follows the administration of this vitamin is shown in Fig. 1. There is a prompt rise in the reticulocyte count which reaches a maximum within five to ten days. The erythrocyte count, percentage of hemoglobin and volume of packed red cells increases steadily and normal values are attained at the end of about two months if adequate therapy has been administered. This response is similar to that which follows liver extract. Coincident with hematologic regeneration there is marked clinical improvement. Signs of anoxemia disappear, strength increases, and glossitis subsides.

The dosage of vitamin B_{12} which will stimulate blood regeneration at a maximum rate appears to be about 2.5 to 3 micrograms daily, in our experience.[5] Darby[6] has arrived at a similar figure. This is com-

*Vitamin B_{12} was furnished through the courtesy of Merck & Co.

TABLE 5
THERAPY OF MACROCYTIC ANEMIA

PERNICIOUS ANEMIA AND ANEMIA FOLLOWING GASTRECTOMY		
Relapse	(a) Vitamin B_{12} (Parenteral)	25-30 ug. a week (single or divided doses)
	(b) Liver Extract (Parenteral)	30 units a week (single or divided doses)
Maintenance	(a) Vitamin B_{12} (Parenteral)	15 to 30 ug. once or twice monthly
	(b) Liver Extract (Parenteral)	15 to 30 units once or twice monthly
	Larger doses in presence of degeneration of spinal cord	
OTHER MACROCYTIC ANEMIAS	Preferred therapy uncertain	
Relapse	(a) Liver Extract (Parenteral)	Same dosage as above
	(b) Vitamin B_{12} (Parenteral)	Same dosage as above (or smaller)
	(c) Folic Acid (Oral)	5 to 10 mg. 3 times daily
	(d) Vitamin B_{12} (Oral)	(Under investigation)
	(e) Combined Vitamin B_{12} and Folic Acid (Oral)	(Under investigation)
Maintenance	(a) No therapy	
	(b) Liver Extract (Parenteral)	As in pernicious anemia
	(c) Vitamin B_{12} (Parenteral)	As in pernicious anemia
	(d) Folic Acid (Oral)	5 mg. daily



parable to the amount of liver extract, 2 or more units daily, suggested by Clark[7] as sufficient for maximum erythrocyte regeneration during the first month of therapy. It seems advisable to administer either vitamin B_{12} or liver extract at weekly intervals. If the time between injections is too great, less rapid and complete hemato-

logic regeneration may be obtained.

Vitamin B_{12} has certain advantages as an antianemic agent when compared to liver extract. It is a pure material whose potency can be accurately measured; whereas the potency of liver extract must be assayed in vivo in patients who have pernicious anemia in relapse. Another advantage is that vitamin B_{12} does not appear to cause allergic reactions. Patients who have had severe reactions following injection of liver extract, including one in our series, have been satisfactorily treated with vitamin B_{12}. On the other hand, there remains the possibility that liver extract may contain substances other than vitamin B_{12} which are important in hematopoieses. The therapy of choice can be settled only by further study and longer periods of observation.

The adequacy of therapy of macrocytic anemia in relapse may be judged in two ways: (1) the reticulocyte response, and (2) the rate and completeness of erythrocyte regeneration. The height of the reticulocyte response and the rapidity of improvement vary inversely with the severity of the anemia. Data concerning the anticipated reticulocyte increase and the expected rise in red cell count, during the first month of therapy, for various initial erythrocyte levels, have been recently reviewed by Clark.[7,8] The response of individual patients may be compared with these data in evaluating therapy.

In pernicious anemia, treatment must be continued for the remainder of the patient's life. The maintenance requirement of liver extract is between 0.5 and 2 units daily; that of vitamin B_{12} will probably be found to be between 0.5 and 2 micrograms daily. In several patients whom we have followed for more than a year, a normal blood picture has been maintained with amounts of vitamin B_{12} varying from 0.3 ug. to slightly more than one microgram daily. Injections of either liver extract or vitamin B_{12} may usually be given at monthly intervals, although some subjects benefit from more frequent administration.

The oral administration of vitamin B_{12}, in combination with some source of intrinsic factor or with folic acid has recently been suggested as a method of treating pernicious anemia. This therapy is not recommended until much more investigation has been carried out.

The treatment of macrocytic anemias, other than pernicious anemia, is not well standardized and presents many unsolved problems. The ideal method of therapy in the various clinical syndromes has not been determined. In many instances, marked improvement follows the administration of either folic acid, liver extract or vitamin B_{12}, orally or parenterally. In sprue and nutritional macrocytic anemia, we have found folic acid to be an extremely effective agent in practically all instances.[9] In 7 patients to whom vitamin B_{12} was administered, each improved markedly when this vitamin was given parenterally, while only 3 were benefited by oral therapy.[5] Recent reports indicate that macrocytic anemia of pregnancy and megaloblastic anemia of infancy may at times fail to respond to vitamin B_{12}; whereas folic acid will initiate prompt improvement. Oral therapy with a combination of vitamin B_{12} and folic acid has recently been advocated in several types of macrocytic anemia. Too few data are available regarding the effects of oral vitamin B_{12}, alone or in combination with folic acid, to recommend this type of therapy until indications for its use have been more clearly delineated. In the present state of knowledge, it would seem advisable to administer folic acid orally or liver extract or vitamin B_{12} parenterally in treating non-Addisonian macrocytic anemia. Suggestions for such therapy are included in Table 5. They should be considered tentative and will require revision as more information becomes available.

In our experience, most subjects with non-Addisonian anemia need smaller amounts of vitamin B_{12} or liver extract than do patients with pernicious anemia. However, there are reports in the older literature indicating that occasional patients with sprue require large quantities of par-

enteral liver therapy. Folic acid might have been beneficial in these instances. In macrocytic anemia of liver disease, therapeutic requirements apear to be high and the interval between injections should preferably be decreased since storage may be impaired.

In the therapy of any of the anemias there is no justification for the use of preparations containing all known antianemic substances. Iron deficiency is not encountered in uncomplicated pernicious anemia and is only rarely observed in sprue and nutritional macrocytic anemia. On the other hand, there is no convincing evidence that folic acid, vitamin B_{12} and liver extract, alone or in combination, are beneficial in iron deficiency anemia. The use of "shot gun" therapy prevents accurate diagnosis and often results in supplying too little of the one antianemic substance which the patient needs. In addition, the expense of such preparations places an unwarranted burden on the patient.

SUMMARY

The diagnosis of macrocytic anemia involves accurate hematologic study, including estimation of mean corpuscular volume and mean corpuscular hemoglobin concentration, and careful clinical examination to determine the etiologic factors responsible for development of the anemia. Treatment is dependent on the type of macrocytic anemia observed. Pernicious anemia may be satisfactorily treated by the parenteral administration of liver extract or vitamin B_{12}. Therapy must be continued throughout the rest of the patient's life. Treatment of macrocytic anemia other than pernicious anemia must be individualized. Indications for the use of folic acid, vitamin B_{12} or liver extract have been discussed. The primary requisite for proper management of macrocytic anemia is accuracy of diagnosis. The current extensive investigation of antianemic substances should soon lead to clarification of diagnostic and therapeutic problems in this field.

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DISCUSSION

Question—Dr. Spears Randall (New Orleans):

Will you agree to the point that administration of liver extract be limited to the proven cases of macrocytic anemia, rather than used on any type of anemia?

Answer—Dr. Goldsmith:

Yes. Furthermore there is seldom justification for the use of preparations which contain every antianemic substance that has been discovered, iron, vitamin C, copper, folic acid, liver extract and so on. If one of these "shotgun" preparations is given to a patient, a proper diagnosis may never be made. After such administration, it will often be impossible to determine whether the patient had pernicious anemia, iron deficiency anemia or some other condition. In addition, such preparations are expensive. They often do not contain a sufficient quantity of the one subsance which the patient needs. We ought to give individual preparations which contain a single factor unless the individual can be shown to be lacking in several factors, which is only occasionally the case.

Question—Dr. Russell Lowell Holman (New Orleans):

I wonder if Dr. Goldsmith knows a source of B_{12} in anything other than liver? Do we get B_{12} from any other sources naturally?

Answer—Dr. Goldsmith:

Yes, vitamin B_{12} or similar factors are found in many natural sources. There are probably several chemical compounds with vitamin B_{12} activity just as in the case of folic acid. Vitamin B_{12} appears to be essential for the growth of a number of animals, probably all. We are not sure whether the so-called animal protein factor is the same as vitamin B_{12} but it is certainly closely related to it. Good food sources of vitamin B_{12} are glandular meats, muscle tissue, especially beef, eggs, and milk products.

NEW ORLEANS
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AMERICAN MEDICAL ASSOCIATION PROVIDES FUNDS FOR MEDICAL SCHOOLS

In the issue of this Journal for the month of December 1949, an editorial was published under the title of *Organized Medicine and Medical Education.* In this editorial it was stated in effect that the American Medical Association had taken a definite stand against subsidy of medical schools by the federal Government and, by inference, an equally strong stand against the control of medical schools by the Government. It was suggested that to make this stand effective a positive move was necessary. To accomplish this end it was felt that the American Medical Association should subsidize the medical schools. This was neither a departure from tradition nor impossible of accomplishment. The American Medical Association was founded more than a century ago by men who felt that their own integrity as practitioners was challenged so long as unqualified men could call themselves "M. D." Activities in the A. M. A. since that time have been directed by various means to improve the state of medical education and the conditions of practice.

That it was feasible from the financial point of view is obvious when one considers the huge pools of money accumulated by labor unions where the per capita income is much lower than that of physicians. Considering this, to maintain the right of private practice every physician could well afford to pay much more of his income into a fund to be used in the general interest.

It is, therefore, a matter of considerable satisfaction that by unanimous action the Board of Trustees af the American Medical Association, on December 6 past, appropriated $500,000 as an "endowment without strings" to be given the medical schools as a nucleus for a nationwide fund to be raised from nonpolitical sources. This fund, it is stated, is in addition to the quarter of a million dollars or more which the Association has spent annually for years, through its Council on Medical Education and Hospitals and other departments, to advance the cause of medical education. This recent contribution comes from the Association's National Education Campaign Fund, and of course, ultimately from the dues that the members pay. This action of the Board of Trustees was enthusiastically approved by organized medicine. It was stated that the Board hoped this action would become a stimulus to other professions, industries, businesses, labor groups, and private donors. It may be reasonably anticipated that the Board of Trustees may have other funds which, in the future, may be added to this appropriation.

When the physician reflects on the great service rendered to medicine and to the public as a whole by this action, he is likely to have little objection to the allocation of a

portion of the dues for this purpose. When he further considers the extent to which organization activities are protective and supportive, he will feel that the money for dues is well spent. The alternative to support of the Medical schools by organized medicine is not pleasant or salutory. The Supreme Court of the United States, which seems to be the policy making body for the nation at the present time, has decided that the Government may be presumed to have the right to control that which it subsidizes. Regardless of the terms under which grants are given to Medical schools by the federal Government at a particular time, in the space of a few years the schools would become entirely dependent upon such grants and then become bound by conditions which may be expected to accompany the grants. At this point medical school autonomy will depart; State medicine will move perceptibly closer. On the other hand, with the schools supported by the A. M. A., or with a fund which the A. M. A. may be able to collect, freedom of research and training is assured. It sets an example of private initiative. Quoting from the editorial referred to above: "Under these conditions, the schools would be receptive to the principles of private practice, which in some areas is not the case now. Students would then look to organized medicine rather than to a prodigal government as the source of the funds which provided their education." When the medical schools are free of the threat of government domination, then Communism and State Medicine will receive another setback.

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ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

AMERICAN MEDICAL ASSOCIATION DUES

At the interim meeting of the American Medical Association in December, 1949, the House of Delegates approved payment of dues for membership and the Board of Trustees set amount of dues for 1950 at $25.00. Unfortunately many of the members of the State Society have not been aware of this fact although several communications concerning this matter have been sent to them from the office of the Secretary-Treasurer of the State Society. In addition, it is our understanding that the Secretary of the AMA, through the Journal of the AMA and other sources, has advised doctors throughout the Country that payment of dues should be made in order to continue membership in the national organization.

This is the first year that membership dues have been charged by the AMA and these are in addition to fellowship dues which in the past entitled a doctor to subscription to the Journal of the AMA or a specialty journal published by the AMA. In 1949 all doctors were requested to contribute $25 to assist the AMA in the fight against federalization of medicine. Fellowship dues for 1950 were $12 and membership dues for this year were $25. We have been advised by the secretary of the AMA that membership dues for 1951 will be $25 and this will entitle a doctor to receive copies of the Journal of the AMA. Fellowship dues in 1951 will be $5 as set by the Board of Trustees of the AMA and a fellow will be privileged to select a specialty journal instead of receiving the Journal of the AMA. In addition fellowship will entitle a doctor to participate in scientific programs of the AMA and make him eligible for election to office and committees of the AMA. In order to be a fellow it is, of course, necessary to be an active member of the State Society and the AMA. We have also been advised by the secretary of the AMA that 1951 membership dues will not be accepted

from doctors who have previously been members of the AMA until 1950 dues have been paid. Members of the State Society are therefore urged to attend to this important matter at once. If a doctor did not become a member of the State Society until after July 1, 1950, he will be entitled to 1950 membership in the AMA by payment of $12.50 for dues.

In addition to the individual benefits derived from membership in the American Medical Association the number of delegates from the State Society to meetings of the AMA is based on number of active members who have paid AMA dues. It is very important, therefore, that a large number of doctors from Louisiana remain active members of the national organization in order that the State Society may have adequate representation in the House of Delegates of the AMA. Checks for dues for 1950 and 1951 membership should be made payable to the American Medical Association and sent to the office of the State Society, 1430 Tulane Avenue, New Orleans, without delay.

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DELETION OF STATE SOCIETY DUES

Deletion of dues for doctors in military service during the present emergency will be effective on the same basis followed during the time of World War II, as follows: Dues are not deleted for the year in which the doctor enters service. He must be a member in good standing, with paid-up dues, at the time he enters service and during subsequent years while in service he will be carried on the rolls of the State Society with deletion of dues. If State Society dues are deleted for a doctor he is also eligible for similar consideration by the AMA.

It is necessary that the secretary-treasurer of the State Society have information concerning military status of members and secretaries of component societies are urged to cooperate by furnishing data in this regard.

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GENERAL PRACTITIONER AWARD

The fourth recipient of the American Medical Association's gold medal "for exceptional service by a general practitioner" is Dr. Dean Sherwood Luce of Canton, Massachusetts, who has served his community as physician, friend and citizen since 1905. Other physicians nominated by the Board of Trustees for this honor were Dr. Jim Camp of Pecos, Texas, and Dr. John William Strange of Loogootee, Indiana.

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LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

NEW CONTRAST AGENTS SHOWN TO DOCTORS

A new contrast agent for visualization of the gall bladder was shown to doctors for the first time as part of a 3-panel exhibit of radiopaque substances used as diagnostic aids presented before the Southern Medical Association by the Sterling-Winthrop Research Institute, Rensselaer, N. Y. The agent is presently called WIN 2011.

The exhibit was equipped with viewing boxes for showing of X-Ray plates of the gall bladder, kidneys, urinary tract and the spinal canal when treated with new radiopaque substances.

The exhibit also detailed results obtained in animal and clinical experiments with both the new agent and Diodrast.

IN MEMORIAM
DR. WILEY ROSS BUFFINGTON
1875-1950

On November 30, 1950, Dr. Wiley Ross Buffington died at the age of 75. In his death the nation lost one of its foremost ophthalmologists, and New Orleans an eye specialist whose care and skill brought relief or cure to thousands, not only of its citizens, but many more hundreds from other cities and other states. In the crowds that daily thronged his office there were always as many patients from the Louisiana Parishes and from outside the state as there were from New Orleans itself.

Dr. Buffington was born in College Hill, Arkansas, August 29, 1875, the son of Alfred Ross Buffington and Sally Warneck.

He was graduated from the University of Arkansas, and then attended the Tulane University School of Medicine, and received his M .D. degree in 1899.

As was the custom in those days, he went immediately into practice as physician for a sawmill in Harlow, Arkansas, where he stayed for about two years. He then took an interneship at the Schumpert hospital (Shreveport Sanitarium) during 1902-1903. Following this, he went to Yellow Pines, Louisiana, near Shreveport, where he practiced for five years. He left to go to Chicago, Illinois, to study surgery, and was at the Chicago Policlinic in 1908. He returned to Louisiana in 1909, and was stationed at Rochelle, Louisiana, until the spring of 1917, when he came to New Orleans and enrolled at the New Orleans Polyclinic at the Eye, Ear, Nose and Throat Hospital, in order to specialize in ophthalmology. His plans were interrupted by World War I, and in July 1917, he went into the Army and was in the service for two years. After his discharge, he returned to New Orleans and resumed his studies. In 1921, he began the practice of ophthalmology in New Orleans in association with Dr. Henry Dickson Bruns. For almost thirty years he continued in the active practice of his specialty, until failing health in the last few months of his life made this impossible.

Dr. Buffington gave many years of devoted service to Tulane University, beginning June 1, 1926, when he was appointed Professor of Ophthalmology and head of the Department of Ophthalmology. He continued in this post with unswerving loyalty to Tulane, manifested not only in many hours of teaching students from his vast fund of knowledge and technical skill, but in furthering the advancement and best interests of the Medical School. He served right along until his resignation as Professor of Ophthalmology and head of the department, effective August 31, 1940. He was named Professor Emeritus of Ophthalmology, September 1, 1940, which position he held at the time of his death. He was also for a long period, previous to 1940, a member of the faculty of the graduate school of medicine as Clinical Professor of Ophthalmology.

His first association with the Eye, Ear, Nose and Throat Hospital was in 1917, when he matriculated in the New Orleans Polyclinic and followed the clinics of the hospital until July when he went into the Army. In 1919, following his discharge from the service, he became clinical assistant in the eye department of the Eye, Ear, Nose and Throat Hospital, and a few years later was promoted to surgeon in charge of the eye department. He retired only in 1950 from this post and was appointed consultant in ophthalmology.

He was also, at the time of his death, consultant in ophthalmology at Charity Hospital, a member of the staff of Baptist Hospital, and a consultant at the Marine Hospital.

Dr. Buffington was a member of the American Medical Association and Vice Chairman of the Section on Ophthalmology in 1941. He first became a member of the Louisiana State Medical Society in 1917, and several times served as a member of the House of Delegates. He was a member and at one time a Councillor of the Southern Medical Association, a member of the Orleans Parish Medical Society, the American Academy of Ophthalmology and Otolaryngology, and the New Orleans Graduate Medical Assembly. He was for several different terms of office president of the Louisiana-Mississippi Society of Ophthalmology and Otolaryngology.

Dr. Buffington was certified as a diplomate of the American Board of Ophthalmology in 1931.

In spite of the many demands on his time in teaching and practicing, Dr. Buffington belonged to the Pickwick Club, the Boston Club, the Paul Morphy Chess Club, and the Sons of the American Revolution.

He is survived by his widow, the former Miss Rowena Morrison, who has long been prominent in Auxiliary affairs; two brothers, Dr. Horace L. Buffington of New Orleans, and Maxwell Buffington of Camden, Arkansas; his stepmother, Mrs. A. R. Buffington of Magnolia, Arkansas, and by six sisters.

In his going, New Orleans has lost a citizen who contributed accomplishments in his field to make the city one of the greatest medical centers of the country, and his confreres of the profession have lost an ardent worker for the best interests of medicine.

THE HOSPITAL STANDARDIZATION PROGRAM OF THE AMERICAN COLLEGE OF SURGEONS

So much misinformation about the Hospital Standardization Program of the American College of Surgeons has been circulated, both in the

medical press and by word of mouth, that the facts of the situation should be presented to the profession.

It has been no secret that financing this program has given the Regents concern for some time. The increasing number of hospitals requesting approval and the decreasing value of the dollar have created a serious problem. However, at no time have the Regents decided to abandon the program, and never have they made any overtures to any other organization regarding its disposal.

In July of this year, the Regents received a proposal from the American Hospital Association that the latter assume and finance the Hospital Standardization Program. A Committee of the College was appointed to meet with representatives of the A. H. A. for the sole purpose of phrasing this proposal in specific terms. It cannot be emphasized too strongly that the function of, and instructions to, this committee were limited to this purpose.

The Regents considered this proposal *for the first time* on 4 August 1950. It was not accepted by the College; and the Regents immediately acted to arrange for conference with representatives of the A. M. A., the American College of Physicians, and the A. H. A. Statements that the Regents first agreed to the proposal and later reversed this decision are wholly erroneous.

Three such conferences have been held. Divergence of points of view has diminished but no agreement has yet been reached. Hope that ultimately a satisfactory agreement can be reached has increased with each conference.

The Regents have every intention of continuing the Hospital Standardization Program, upon an expanded scale and even with deficit financing, until a solution can be found which is agreeable to the majority of the profession and which is, above all, in the best interests of the public.

MEDICAL LEGISLATION BEFORE CONGRESS

Key Committees in both House and Senate report they have *no medical or health legislation scheduled for the "lame duck" session opening next week.* Although nearly 100 bills on various subjects are in position for enactment, House and Senate are expected to concentrate on emergency defense and Civil Defense legislation, revision of the anti-subversives law, Alaskan and Hawaiian statehood, rent control extension and possibly a new tax bill.

It is possible but not probable that action will occur on the following: School health services, assistance to local public health units, aid to medical education, changes in Food and Drug Act, and a bill requiring VA to construct facilities for 16,000 more hospital beds. All of these made some progress during the last session. If allowed to die at adjournment of the special session of the eighty-first Congress, all undoubtedly will be re-introduced after the first of the year.

ANNUAL RUDOLPH MATAS LECTURE

The Beta Iota Chapter of Nu Sigma Nu Fraternity announces the annual Rudolph Matas Lecture, 8:00 P. M., February 9, 1951, at Dixon Hall, Tulane University, New Orleans, La. Guest Lecturer: Dr. Frank Lahey of the Lahey Clinic, Boston, Mass. Members of the Profession are cordially invited to attend.

REFILLING OF PRESCRIPTIONS

The A. M. A. Council on Pharmacy and Chemistry, holding its annual meeting at A. M. A. headquarters in Chicago recently, discussed various aspects of the Durham-Humphrey bill, a proposed amendment to the Federal Food, Drug and Cosmetic Act, which would prohibit pharmacists from refilling prescriptions for habit-forming and prescription drugs without the authority of the prescribing physicians.

During the morning session representatives of the American Drug Manufacturers Association, the National Association of Retail Druggists, the American Pharmaceutical Manufacturers Association, and the American Pharmaceutical Association presented their views on the bill.

Dr. Torald Sollmann, council chairman, read the following statement expressing the council's views regarding prescription refills:

"It is the duty and responsibility of the physician to determine whether or not a patient requires additional medication beyond that specified in the original prescription. The physician rather than the pharmacist should determine whether or not refilling of a prescription is indicated or warranted.. A change in the condition of the patient frequently necessitates a change in dosage or medication. The repeated and indiscriminate refilling of prescriptions without the knowledge or the authorization of the physician is a practice which must be condemned."

During the closed meeting in the afternoon it was decided that a three member committee of the council should study all the provisions of the bill and submit a report to the entire council for consideration and approval.

POSTGRADUATE COURSE IN DISEASES OF THE CHEST

A Postgraduate Course in Diseases of the Chest, sponsored by the Council on Postgraduate Medical Education and the Southern Chapter, American College of Chest Physicians, will be held at the Vanderbilt University School of Medicine, Nashville, Tennessee, January 22-27, 1951. For further information, contact the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

POST GRADUATE MEDICAL ASSEMBLY MEETING

The International Post Graduate Medical Assembly of Southwest Texas, will hold its 15th Annual Meeting at the Municipal Auditorium in San Antonio, Texas, on January 23, 24, and 25, 1951.

AMERICAN COLLEGE OF SURGEONS

On October 26, 1950, at the meeting of the American College of Surgeons in Boston, Dr. Alton Ochsner was elected President Elect, and Dr. Thomas Benton Sellers was elected to the Board of Governors for Louisiana. The following members from Louisiana were initiated:

Louis Andrew Breffeilh	Shreveport
Alfred Ross Brin	Monroe
Dominic S. Condie	New Orleans
Paul Trumbull DeCamp	New Orleans
Edwin Earle Dilworth	Shreveport
J. Willard Dowell	Baton Rouge
Lewis H. Ferguson, Jr.	Alexandria
James Foster Gavin	Shreveport
Paul Lionel Getzoff	New Orleans
Walter W. McCook	Shreveport
Max Mayo Miller	Lake Charles
Richard E. C. Miller	Alexandria
Willis J. Taylor	Shreveport
Jack Wickstrom	New Orleans

BOOK REVIEWS

Medical Diagnosis, Applied Physical Diagnosis: Edited by Roscoe L. Pullen, M. D., F. A. C. P. Philadelphia, 2d ed., W. B. Saunder Company, 1950. pp. 1119, 601 figures, 48 in color. Price $12.50.

In this the second edition Dr. Pullen and his twenty-five collaborators have thoroughly revised the former text and brought it up to date. In several instances whole sections have been rewritten. The first two chapters cover the medical history, and introduction to examination of the patient. These subjects are presented clearly and with sufficient scope yet are free from the confusing mass of detail so often found in texts on these subjects. The rest of the book is devoted to regional and systemic diagnosis. The final chapters are on the neurologic examination, endocrine survey, the blood, the child, the aged, and the psychiatric patient. The illustrations are well selected, clearly reproduced, and add much to the text.

The importance attached to the diagnostic study of the chest is indicated by 215 pages being devoted to this subject. The text in these three chapters is particularly comprehensive, and constitutes a distinct contribution to medical literature. While the presentation is rather technical in some instances this is probably necessary to meet the requirements of all types of readers.

The closing chapters are a welcome and unusual addition to medical diagnosis and give an element of completeness to this excellent volume. For study, review, or reference this work will be found always interesting and rarely, if ever, disappointing.

O. W. Bethea, M. D.

Management of Peripheral Arterial Diseases: By Saul S. Samuels, Oxford University Press, New York, 1950.

This monograph presents observations and conclusions based on the wide experience of the author. It contains much valuable information, yet it is far from complete, nor is it consistently in consonance with the observations and opinions of other clinicians in the field of peripheral arterial diseases. The section on aneurysms and arteriovenous fistulas is dealt with in five pages. At least many men with experience in diseases of the peripheral arteries would not agree with the author's expressed feeling concerning the value of oscillometry, nor with his practically unqualified condemnation of sympathectomy, ganglionectomy, or other related operations in thromboangitis obliterans and arteriosclerosis obliterans. The discussion of plethysmography is very meagre, occupying less than half a page. No reference is made to the phenomenon of hemometakinesia either in discussions of diagnostic procedures or in the evaluation of vasidilator drugs.

Ambrose H. Storck, M. D.

PUBLICATIONS RECEIVED

American Medical Association, Chicago: Medicine and the Welfare State, a Compilation of Articles from Various Sources.

Froben Press, Inc., New York: Yearly Surgical Digest, by Richard A. Leonardo, M. D.

John Maurice Grimes, M. D., Chicago: When Minds go Wrong, published and written by John Maurice Grimes, M. D.

Charles C. Thomas, Publisher, Springfield, Ill.: The Clinical Use of Testosterone, by Henry H. Turner, M. D., F. A. C. P.; Surgery, Orthodox and Heterodox, by Sir William Heneage Ogilvie, K. B. E.; Visual Anatomy: Head and Neck, by Sydney M. Friedman, M. D., Ph. D.; The Preparation of Photographic Prints for Medical Publication, by Stanley J. McComb, F. B. P. A.; Indications for and Results of Splenectomy, by Frederick A. Coller, M. D., Alexander Blain, III, M. D., and Gould Andrews, M. D.; Pharmacological Basis of Penicillin Therapy, by Karl H. Beyer, Ph. D., M. D., F. A. C. P.